PB81-111783

Removing Potential Organic Carcinogens and
Precursors from Drinking Water. Volume II
Appendix B. Raw Data Tables

Florida International Univ.
Miami

Prepared for

Municipal Environmental Research Lab.
Cincinnati, OH

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REMOVING POTENTIAL ORGANIC CARCINOGENS AND PRECURSORS FROM DRINKING WATER

Volume II (Appendix B)

Raw Data Tables

by

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16. ABSTRACT

Feasible and economical methodologies were needed to remove existing organic contaminants--specifically, four trihalomethanes (chloroform, bromodichloromethane, chlorodibromomethane, and bromoform)--from and prevent development of potential carcinogens in the public water supplies in Dade County, Florida. A four-phase study was designed to evaluate the efficiency of three adsorbents in removing 19 individual halogenated organics and trihalomethane precursors. These adsorbents were XE-340--a carbonized polymeric macroreticular resin; IRS-904--a strong base catonic resin designed to remove large molecular weight substances such as precursors from water; and granular activated carbon (GAC). Adsorbent columns were placed at various stages in the water processing system: the raw-water, the lime-softened at the up-flow Hydrotreator effluent, and the finished water stage. Four 0.76-meter-deep GAC Filtrasorb 400 columns, arranged in series on the finished water line, were most effective in reducing the level of the trihalomethanes present in the finished water. The Polanyi-Manes theory of adsorption was applied and found helpful in interpreting results.

Appendix A contains the preliminary studies made of the bacterial profile of raw and finished water and effluent from four GAC columns from the Preston Water Treatment Plant. Raw water organisms, which apparently can survive existing treatment plant processes, colonized the initially bacteria-free GAC columns and released vast numbers of bacteria into the water flowing through the columns. The development of bacterial growth in the GAC columns interfered with backflushing the columns.

Appendix B (Volume II of this report) contains the supporting data for the study.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Adsorbents Granular activated carbon treatment Synthetic resin treatment Potable water Organics control	Adsorption Specific organic compounds General organic parameters	13B

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FOREWORD

The U.S. Environmental Protection Agency was created because of increasing public and government concern about the dangers of pollution to the health and welfare of the American people. Noxious air, foul water, and spoiled land are tragic testimonies to the deterioration of our natural environment. The complexity of that environment and the interplay of its components require a concentrated and integrated attack on the problem.

Research and development is that necessary first step in problem solution; it involves defining the problem, measuring its impact, and searching for solutions. The Municipal Environmental Research Laboratory develops new and improved technology and systems to prevent, treat, and manage wastewater and solid and hazardous waste pollutant discharges from municipal and community sources, to preserve and treat public drinking water supplies, and to minimize the adverse economic, social, health, and aesthetic effects of pollution. This publication is one of the products of that research and provides a most vital communications link between the researcher and the user community.

To protect the consumer of public drinking water, this study was undertaken to develop feasible and economical methodology for reducing the amount of specific organic contaminants in drinking water.

Francis T. Mayo, Director
Municipal Environmental Research Laboratory

ABSTRACT

The principle objective of the two-year Research Project was to devise feasible and economical methodology for removing existing organic contaminants from and preventing development of potential carcinogens in the public water supplies in Dade County, Florida. Specifically, development of methodology to reduce the amount of four trihalomethanes (chloroform, bromodichloromethane, chlorodibromomethane, and bromoform) present in drinking water was the prime objective. In Volume I, the study and findings are described. Volume II contains the supporting raw data.

A four-phase study was designed to evaluate the efficiency of three adsorbents in removing 19 individual halogenated organics and trihalomethane precursors. These adsorbents were XE-340--a carbonized polymeric macroreticular resin; IRA-904--a strong base cationic resin designed to remove large molecular weight substances such as precursors from water; and granular activated carbon (GAC). Adsorbent columns were placed at various stages in the water processing system; i.e., the raw water stage, the lime softened stage at the up-flow Hydrotreator effluent and the finished water stage.

Four GAC Filtrasorb 400 columns, each 0.76 meters (2.5 feet) deep, arranged in series on the finished water line were most effective in reducing the level of the trihalomethanes present in the finished water that would be consumed by the public.

The Polanyi-Manes Theory of adsorption was applied and found helpful in interpreting results. Preliminary studies were made of the bacterial profile of the Preston Water Treatment Plant, raw and finished water, and effluent from four GAC columns. Distribution system samples were also analyzed.

This report was submitted in fulfillment of Grant No. R804521-01 by Dade County Department of Public Health under the Sponsorship of the U.S. Environmental Protection Agency. This report covers a period from June 1976 to June 1980, and work was completed as of May 1980.

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pH, Turbidity, Color,

Chlorine (Free and Total), and

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TABLE 1 VOLUMES AND BACKWASH DATA ON THE FOUR COLUMNS (ED1)

	Finish XE-340			H.T.Effl.XE-340			Raw XE-340			Raw GAC		
Date	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.
8/13	START TIME - 2:00 P.M.											
8/14			24	1 hr	1/2 hr	23			24			24
8/15	1/2 hr	1/4 hr	47.5			46.5	1/2 hr		47.5	1/2 hr	1/4 hr	47.5
8/16			71.5	1/2	1/4	70.0			71.5			71.5
8/17			95.5	1/2	1/4	93.5			95.5			95.4
8/18			119.5	2	1/2	115.5			119.5			119.5
8/19			143.5	1	1/2x2	138.5			143.5			143.5
8/20			167.5	1-1/2	1/2x2	161-0			167.5			167.5
8/21			191.5	1-1/2	1-1/2	183.5			191.5			191.5
8/22			215.5	1	1/2	206.5			215.5			215.5
8/23			239.5	1	1	229.5			239.5			239.5
8/24			263.5	1	1	252.5			263.5			263.5
8/25			287.5	1	1	275.5			287.5			287.5
8/26			311.5	1	1	298.5			311.5			311.5
8/27			335.5	3	1	319.5			335.5			335.5
8/28			359.5	2/3	1/2	332.9			359.5			359.5
8/29			383.5	1	1	355.9			383.5			383.5
8/30			407.5	1	2/3	378.9			407.5			407.5
8/31			431.5	1	1/2	401.9			431.5			431.5
9/1			455.5	1	1/2	424.9			455.5			455.5
9/2			479.5	2	1	446.9			479.5			479.5
9/3			503.5	1	1	469.9			503.5			503.5
9/4			527.5	1	1	492.9			527.5			527.5

(continued)

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TABLE 1 (continued)

	Finish XE-340			H.T.Effl.XE-340			Raw XE-340			Raw GAC		
Date	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.
9/5			551.5	1-1/2	1	515.4			551.5			551.5
9/6			595.5	24	1	515.4			575.5			575.5
9/7			599.5	8	0	531.4			599.5			599.5
9/8			623.5	1	1/2	554.4			623.5			623.5
9/9			647.5	1	1/2	577.4			647.5			647.5
9/10			671.5	1	1/2	600.4			671.5			671.5
9/11			695.5	1	1	623.4			695.5			695.5
9/12			719.5	3/4	3/4	646.6			719.5			719.5
9/13			743.5	1	1	669.6			743.5			743.5
9/14			767.5	1	1	692.6			767.5			767.5
9/15			791.5	1	1	715.6			791.5			791.5
9/16			815.5	1/2	1	738.4			815.5			815.5
9/17			839.5	3/4	3/4	751.6			839.5			839.5
9/18			863.5	1	1	774.6			863.5			863.5
9/19			887.5	0.8	0.8	797.8			887.5			887.5
9/20	2 hr		909.5	1	1	820.8			911.5			911.5
9/21			933.5	1	1	853.8			935.5			935.5
9/22			957.5	1	1	876.8			959.5			959.5
9/23			981.5	1	1	899.8			983.5			983.5
9/24			1005.5	1	1	922.8			1007.5			1007.5
9/25			1029.5	0.8	0.8	946.0			1031.5			1031.5
9/26			1053.5	0.8	0.8	969.2			1055.5			1055.5
9/27			1077.5	0.8	0.8	992.4			1079.5			1079.5

(continued)

TABLE 1 (continued)

Date	Finish XE-340 Time Off	B.W. Time	Total Vol. Gal.	H.T.Effl.XE-340 Time Off	B.W. Time	Total Vol. Gal.	Raw XE-340 Time Off	B.W. Time	Total Vol. Gal.	Raw GAC Time Off	B.W. Time	Total Vol. Gal.
9/28			1101.5	1 hr	1 hr	1018.4			1103.5			1103.5
9/29			1125.5	1-1/2	1	1037.9			1127.5			1127.5
9/30			1149.5	0.75	0.75	1061.1			1151.5			1151.5
10/1			1173.5	1	1	1084.1			1175.5			1175.5
10/2			1197.5	1	1	1107.1			1199.5			1199.5
10/3			1221.5	1	1	1131.1			1223.5			1223.5
10/4			1245.5	1	1	1154.1			1247.5			1247.5
10/5			1269.5	1	0.8	1177.1			1271.5			1271.5
10/6			1293.5	1	1	1200.1			1295.5			1295.5
10/7			1317.5	0.8	0.8	1223.3			1319.5			1319.5
10/8			1341.5	1	1	1246.3			1343.5			1343.5
10/9			1365.5	0.8	0.8	1269.5			1367.5			1367.5
10/10			1389.5	0.8	0.8	1292.7			1391.5			1391.5
10/11			1413.5	1	1	1315.7			1415.5			1415.5
10/12			1437.5	0.8	0.8	1338.9			1439.5			1439.5
10/14			1461.5	0.8	0.8	1362.1			1463.5			1463.5
10/15			1485.5	0.8	0.8	1385.3			1487.5			1487.5
10/16			1509.5	0.8	0.8	1408.5			1511.5			1511.5
10/17			1533.5	0.7	0.7	1431.8			1535.5			1535.5
10/18			1557.5	0.8	0.8	1455.0			1559.5			1559.5
10/19			1581.5	0.8	0.8	1478.2			1583.5			1583.5
10/20			1605.5	0.8	0.8	1501.4			1607.5			1607.5
10/21			1629.5	0.8	0.8	1524.6			1631.5			1631.5

(continued)

TABLE 1 (continued)

	Finish XE-340			H.T.Effl.XE-340			Raw XE-340			Raw GAC		
Date	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.
10/22	0.5	0.5	1653.0	1	1	1547.6	0.5	0.5	1655.0	0.5	0.5	1655.0
10/23			1677.0	0.8	0.8	1570.8			1679.0			1679.0
10/24			1701.0	0.7	0.7	1594.1			1703.0			1703.0
10/25			1725.0	0.8	0.8	1617.3			1727.0			1727.0
10/26			1749.0	1	0.8	1640.3			1751.0			1751.0
10/27			1773.0	1	1	1663.3			1775.0			1775.0
10/28			1797.0	1	1	1686.3			1799.0			1799.0
10/29	0.5	0.5	1820.5	1.5	1	1708.8	0.3	0.3	1822.7	0.2	0.2	1822.8
10/30			1843.5	1	0.8	1731.8			1846.7			1846.8
10/31			1867.5	1	0.8	1755.0			1870.7			1870.8
11/1			1890.5	0.8	0.5	1777.2			1893.7			1893.8
11/2			1914.5	0.8	0.5	1800.4			1917.7			1917.8
11/3			1938.5	0.8	0.5	1823.6			1941.7			1941.8
11/4			1962.5	1	0.8	1846.6			1964.7			1964.8
11/5			1986.5	1.5	1	1869.1			1988.7			1988.8
11/6	0.5	0.5	2010.0	0.8	0.5	1892.3			2012.7			2012.8
11/7			2034.0	1	0.5	1915.3			2036.7			2036.8
11/8			2038.0	0.8	0.5	1938.5			2060.7			2060.8
11/9			2082.0	0.8	0.5	1961.7			2084.7			2084.8
11/10			2106.0	0.8	0.5	1984.9			2108.7			2108.8
11/11			2130.0	0.8	0.5	2018.1			2132.7			2132.8
11/12			2154.0	0.8	0.5	2041.3			2156.7			2156.8
11/13			2178.0	0.8	0.5	2064.5			2180.7			2180.8

(continued)

TABLE 1 (continued)

	Finish XE-340			H.T.Effl.XE-340			Raw XE-340			Raw GAC		
Date	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.	Time Off	B.W. Time	Total Vol. Gal.
11/14	0.3	0.3	2201.7	0.8	0.5	2087.7			2204.7			2204.8
11/15			2225.7	0.6	0.5	2111.1			2228.7			2228.8
11/16			2249.7	0.8	0.5	2134.3			2252.7			2252.8
11/17			2273.7	1.2	0.5	2157.1			2276.7			2276.8
11/18			2297.7	0.8	0.5	2180.3			2300.7			2300.8
11/19			2321.7	0.8	0.5	2203.5			2324.7			2324.8
11/20	0.2	0.2	2345.5	1	0.5	2226.5			2348.7			2348.8
11/21			2369.5	0.8	0.5	2249.7			2372.7			2372.8
11/22			2393.5	0.5	0.5	2273.2			2396.7			2396.8
11/23			2417.5	0.8	0.5	2296.4			2420.7			2420.8
11/24			2441.5	0.8	0.5	2319.6			2444.7			2444.8
11/25			2465.5	0.7	0.5	2342.9			2468.7			2468.8
11/26			2489.5	0.7	0.5	2366.2			2492.7			2492.8
11/27			2513.5	0.6	0.5	2389.6			2516.7			2516.8
11/28			2537.5	0.8	0.6	2412.8			2540.7			2540.8
11/29			2561.5	0.8	0.6	2436.0			2564.7			2564.8
11/30	0.3	0.3	2585.2	1.5	1.0	2458.5			2588.7			2588.8
12/1			2609.2	0.8	0.5	2481.7			2612.7			2612.8
12/2			2633.2	0.8	0.6	2504.9			2636.7			2636.8
12/3			2657.2	1.0	0.8	2527.9			2660.7			2660.8
12/4			2681.2	0.6	0.5	2551.3			2684.7			2684.8
12/5			2705.2	0.7	0.6	2574.6			2708.7			2708.8
12/6			2729.2	0.5	0.4	2598.1			2732.7			2732.8

(continued)

TABLE 1 (continued)

Date	Finish XE-340 Time Off	Finish XE-340 B.W. Time	Finish XE-340 Total Vol. Gal.	H.T.Effl.XE-340 Time Off	H.T.Effl.XE-340 B.W. Time	H.T.Effl.XE-340 Total Vol. Gal.	Raw XE-340 Time Off	Raw XE-340 B.W. Time	Raw XE-340 Total Vol. Gal.	Raw GAC Time Off	Raw GAC B.W. Time	Raw GAC Total Vol. Gal.
12/7			2753.2	0.6	0.5	2621.5			2756.7			2756.8
12/8			2777.2	0.8	0.5	2643.7			2780.7			2780.8
12/9			2801.2	0.8	0.5	2666.9			2804.7			2804.8
12/10	0.3	0.3	2824.9	3 hr	0.8	2687.9	0.3	0.3	2828.4	0.3	0.3	2828.5
12/11			2848.9	0.8	0.6	2711.1			2852.4			2852.5
12/12			2872.9	0.7	0.5	2734.4			2876.4			2876.5
			2896.9	0.8	0.5	2757.6			2900.4			2900.4

TABLE 2 pH DATA (ED1)

pH DATA

DATE 1976	1 RAW WATER	3 RAW THRU G.A.C.	5 RAW THRU XE-340	7 H.T.EFFL.	9 H.T.EFFL. XE-340	11 FINISHED	13 FINISHED THRU XE-340
8/19	7.2	7.6	7.5	10.1	10.0	9.6	9.1
8/20	7.2	7.3	7.3	9.3	9.0	7.7	8.2
8/22	7.2	7.5	7.3	10.0	9.8	9.2	9.1
8/23	7.2	7.4	7.4	9.7	9.5	9.2	9.3
8/24	7.2	7.5	7.5	9.9	9.6	8.9	8.9
8/25	7.2	7.4	7.3	10.1	10.0	9.4	9.3
8/26	7.1	7.4	7.4	10.0	9.8	9.1	9.0
8/27	7.2	7.4	7.3	10.2	10.05	9.4	9.3
8/31	7.2	7.3	7.3	10.0	9.8	9.0	8.6
9/1	7.2	7.3	7.3	9.8	9.7	8.7	8.7
9/2	7.3	7.5	7.4	10.0	9.9	9.3	9.2
9/3	7.2	7.4	7.3	8.8	8.7	8.0	8.1
9/4	7.2	7.4	7.4	10.25	10.3	10.0	9.6
9/5	7.2	7.4	7.4	9.9	9.8	9.2	9.1
9/6	7.2	7.3	7.4	Off	off	9.3	9.2
9/7	7.2	7.3	7.4	10.0	9.9	9.1	8.7
9/8	7.1	7.3	7.3	9.6	9.4	8.8	8.8
9/9	7.2	7.4	7.3	10.1	9.7	9.2	8.8
9/10	7.2	7.5	7.4	10.0	9.8	9.5	9.5
9/11	7.2	7.3	7.3	9.9	9.6	9.3	9.1
9/12	7.2	7.3	7.3	9.7	9.7	9.5	9.3
9/13	7.2	7.4	7.3	9.7	9.4	8.9	8.9
9/14	7.2	7.4	7.3	9.9	9.8	9.2	8.9
9/15	7.2	7.4	7.4	9.9	9.6	9.1	9.1
9/16	7.2	7.4	7.3	9.9	9.8	9.8	9.7
9/17	7.15	7.3	7.3	9.9	9.6	8.9	8.9
9/18	7.2	7.4	7.4	10.0	9.7	9.3	9.3
9/19	7.15	7.3	7.3	9.8	9.6	9.3	9.3
9/20	7.2	7.3	7.3	9.8	9.6	8.9	8.9
9/21	7.2	7.4	7.3	9.8	9.4	9.2	9.1
9/22	7.2	7.3	7.3	10.2	10.15	9.4	9.2

(continued)

TABLE 2 (continued)

pH DATA

DATE 1976	1 RAW WATER	3 RAW THRU G.A.C.	5 RAW THRU XE-340	7 H.T.EFFL.	9 H.T.EFFL. XE-340	11 FINISHED	13 FINISHED THRU XE-340
9/23	7.2	7.4	7.3	10.1	9.9	9.3	9.1
9/24	7.2	7.3	7.3	9.9	9.2	8.9	8.9
9/25	7.2	7.4	7.3	9.9	9.7	8.9	8.9
9/26	7.2	7.3	7.3	9.6	9.4	8.7	8.8
9/27	7.2	7.3	7.3	10.0	9.9	9.5	9.3
9/28	7.2	7.3	7.3	9.8	9.6	9.1	9.1
9/29	7.1	7.3	7.3	9.8	9.4	8.9	8.8
9/30	7.1	7.4	7.3	8.9	8.8	9.1	8.9
10/1	7.2	7.4	7.3	9.8	9.4	8.9	8.9
10/2	7.2	7.4	7.4	9.9	9.9	9.7	9.5
10/3	7.2	7.3	7.3	9.7	9.5	9.2	9.1
10/4	7.2	7.3	7.3	9.8	9.4	8.6	8.7
10/5	7.2	7.4	7.3	10.0	9.9	8.7	8.8
10/6	7.2	7.3	7.3	10.1	9.9	8.6	8.7
10/7	7.3	7.4	7.4	9.8	9.7	9.1	9.2
10/8	7.1	7.3	7.2	9.8	9.5	8.9	7.0
10/9	7.2	7.3	7.3	10.2	10.0	9.1	9.1
10/10	7.2	7.4	7.3	10.2	10.1	9.8	9.6
10/11	7.2	7.4	7.3	10.1	10.1	9.4	9.5
10/12	7.2	7.3	7.3	9.8	9.7	10.2	10.1
10/13	7.2	7.4	7.3	9.9	9.8	9.8	9.7
10/14	7.2	7.3	7.2	9.8	9.5	9.4	9.3
10/15	7.2	7.4	7.3	.7	9.4	9.0	9.1
10/16	7.2	7.4	7.3	9.8	9.6	9.4	9.2
10/17	7.2	7.4	7.4	9.6	9.6	9.5	9.5
10/18	7.3	7.4	7.4	9.9	9.5	8.9	8.6
10/1	7.2	7.4	7.3	9.8	9.4	9.0	8.9
10/20	7.2	7.4	7.3	9.7	9.6	9.1	8.9
10/21	7.2	7.3	7.3	9.9	9.5	9.1	8.6
10/22	7.2	7.3	7.3	10.0	9.6	9.4	9.1
10/23	7.1	7.4	7.3	9.8	9.6	9.1	8.9
10/24	7.2	7.3	7.3	9.5	9.3	9.2	9.2

(continued)

TABLE 2 (continued)

pH DATA

DATE 1976	1 RAW WATER	3 RAW THRU G.A.C.	5 RAW THRU XE-340	7 H.T.EFFL.	9 H.T.EFFL. XE-340	11 FINISHED	13 FINISHED THRU XE-340
10/25	7.1	7.3	7.2	9.6	9.5	9.3	9.2
10/26	7.2	7.4	7.3	9.6	9.3	9.0	9.0
10/27	7.1	7.4	7.3	9.8	9.2	9.5	9.3
10/28	7.3	7.4	7.5	9.8	9.5	9.2	9.3
10/29	7.1	7.4	7.3	9.9	9.9	9.6	9.6
10/30	7.1	7.3	7.3	9.8	9.8	9.6	9.5
10/31	7.1	7.4	7.3	10.0	9.9	9.5	9.2
11/1	7.1	7.4	7.3	9.9	9.8	9.2	8.9
11/2	7.3	7.3	7.3	9.7	9.6	9.1	9.0
11/3	7.1	7.2	7.2	8.9	8.6	7.8	8.6
11/4	7.3	7.5	7.4	10.0	9.8	9.3	8.9
11/5	7.2	7.3	7.3	9.8	9.1	9.2	9.2
11/6	7.2	7.3	7.2	9.7	9.5	9.0	8.3
11/7	7.2	7.3	7.3	9.7	9.6	9.0	9.0
11/8	7.2	7.3	7.3	9.6	9.5	9.1	9.1
11/9	7.2	7.3	7.3	9.8	9.6	9.1	9.1
11/10	7.2	7.3	7.3	9.9	9.6	9.1	9.0
11/11	7.2	7.3	7.3	9.7	9.6	8.9	8.8
11/12	7.2	7.3	7.3	9.9	9.6	9.1	9.0
11/13	7.2	7.3	7.3	9.8	9.6	8.9	9.0
11/14	7.1	7.3	7.3	10.1	9.9	9.3	9.1
11/15	7.2	7.2	7.2	9.7	9.5	9.2	9.2
11/16	7.2	7.3	7.3	9.8	9.6	9.1	9.1
11/17	7.2	7.4	7.3	10.4	9.8	9.3	8.9
11/18	7.2	7.4	7.3	8.8	9.7	9.5	9.5
11/19	7.2	7.25	7.25	10.2	9.6	8.9	8.7
11/20	7.2	7.3	7.4	9.7	9.6	9.4	9.3
11/21	7.2	7.3	7.4	9.8	9.7	9.5	9.4
11/22	7.1	7.3	7.3	9.8	9.7	9.4	9.3
11/23	7.2	7.3	7.3	9.9	9.8	9.5	9.5
11/24	7.1	7.3	7.1	10.0	9.3	9.3	9.1
11/25	7.1	7.3	7.3	9.4	9.2	8.8	8.9
11/26	7.1	7.2	7.3	9.8	9.6	9.2	9.0
11/27	7.2	7.3	7.3	10.0	9.9	9.1	8.9

(continued)

TYPING GUIDE SHEET

TABLE 2 (continued)

pH DATA

DATE 1976	1 RAW WATER	3 RAW THRU G.A.C.	5 RAW THRU XE-340	7 H.T.EFFL.	9 H.T.EFFL. XE-340	11 FINISHED	13 FINISHED THRU XE-340
11/28	7.1	7.3	7.3	9.8	9.7	9.3	9.2
11/29	7.2	7.3	7.4	9.9	9.6	9.6	9.3
11/30	7.2	7.3	7.3	9.7	9.7	9.6	9.8
12/1	7.1	7.3	7.3	9.7	9.4	9.0	8.9
12/2	7.1	7.2	7.3	10.0	10.2	9.9	9.0
12/3	7.2	7.3	7.3	10.1	10.2	8.7	8.5
12/4	7.1	7.3	7.3	9.7	9.6	8.65	8.1
12/5	7.1	7.3	7.3	9.7	9.4	8.5	8.6
12/6	7.2	7.2	7.3	9.9	9.7	9.5	9.3
12/7	7.1	7.3	7.4	9.6	9.5	9.2	9.2

EPA-287 (Cin.)
(4-76)

TABLE 3 pH DATA SIX-DAY AGED (ED1)

pH DATA SIX-DAY SAMPLES

DATE 1976	2 RAW WATER	4 RAW THRU G.A.C.	6 RAW THRU XE-340	8 H.T.EFFL.	10 H.T.EFFL. XE-340	12 FINISHED	14 FINISHED THRU XE-340
8/31	7.2	7.3	7.3	10.0	9.9	8.9	8.1
9/2	7.3	7.2	7.2	9.9	9.7	8.9	8.9
9/10	7.3	7.3	7.3	9.8	9.8	9.4	9.4
9/14	7.2	7.2	7.2	9.9	9.8	8.8	8.8
9/30	7.2	7.2	7.2	8.7	8.8	8.9	8.9
10/13	7.3	7.3	7.2	10.2	9.9	9.1	9.6
10/15	7.2	7.3	7.2	9.4	9.3	8.9	8.8
10/20	7.3	7.3	7.3	9.5	9.5	8.7	8.7
10/22	7.2	7.3	7.2	9.5	9.6	9.0	8.9
10/27	7.2	7.3	7.2	9.6	9.8	9.3	9.2
10/29	7.2	7.2	7.2	9.9	9.8	9.2	9.0
11/3	7.2	7.2	7.2	8.3	8.8	8.2	8.6
11/5	7.1	7.2	7.2	9.7	9.2	9.1	9.0
11/10	7.1	7.1	7.1	9.7	9.6	9.0	8.8
11/12	7.2	7.1	7.2	9.6	9.5	8.8	8.7
11/17	7.2	7.2	7.1	10.0	9.9	8.9	8.7
11/24	7.1	7.2	7.2	9.8	9.7	9.1	9.0
12/7	7.0	7.1	7.1	9.5	9.4	9.0	8.9

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD BEGIN SECTIONS HERE
BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
3/8"
PAGE NUMBER
EPA-287 (Cin.) (4-76)

TABLE 4 TURBIDITY DATA (ED1)

TURBIDITY DATA IN NTU

DATE 1976	1 RAW WATER	3 RAW THRU G.A.C.	5 RAW THRU XE-340	7 H.T.EFFL.	9 H.T.EFFL. XE-340	11 FINISHED	13 FINISHED THRU XE-340
8/19	0.67	1.8	1.1	6.5	0.18	0.11	0.09
8/20	0.65	3.1	1.7	100.5	0.18	0.27	0.11
8/22	0.77	3.5	1.7	15	0.18	0.14	0.10
8/23	0.85	3.5	2.0	13	0.18	0.18	0.08
8/24	1.9	1.7	0.78	0.34	0.21	0.34	0.10
8/25	1.3	2.7	1.7	9.0	0.20	0.41	0.13
8/26	1.0	2.4	2.0	7.7	0.17	0.12	0.09
8/27	1.4	2.9	1.7	12	0.17	0.18	0.08
8/31	1.4	2.2	1.9	13	0.16	0.14	0.09
9/1	1.4	2.0	1.6	10	0.17	0.42	0.06
9/2	1.6	2.3	1.6	12	0.17	0.56	0.07
9/3	1.4	2.4	1.7	3.2	0.24	0.11	0.08
9/4	0.5	2.4	2.0	2.5	0.22	0.31	0.12
9/5	0.25	2.0	1.9	4.4	0.19	0.55	0.11
9/6	0.26	1.9	2.2	off	off	0.55	0.22
9/7	1.2	2.4	2.2	13	0.20	0.12	0.10
9/8	1.0	1.9	1.8	12	0.15	0.48	0.10
9/9	1.6	2.9	2.4	13	0.28	0.35	0.08
9/10	0.73	2.6	2.2	12	0.17	0.25	0.06
9/11	0.77	1.3	1.8	12	0.15	0.10	0.08
9/12	0.53	0.60	1.3	13	0.71	0.21	0.07
9/13	0.83	2.2	2.0	15	0.17	2.0	0.15
9/14	1.6	2.6	2.2	13	0.17	0.44	0.11
9/15	0.78	2.0	1.8	14	0.21	0.24	0.19
9/16	1.2	1.0	1.3	16	0.16	0.45	0.10
9/17	0.59	1.6	0.45	15	0.22	1.4	0.11
9/18	0.30	0.8	0.75	12	0.20	0.12	0.13
9/19	0.34	0.64	1.1	12	0.20	0.20	0.10
9/20	0.69	0.85	0.77	13	0.20	0.26	0.09
9/21	0.63	1.3	1.0	13	0.17	0.73	0.10

(continued)

TABLE 4 (continued)

TURBIDITY DATA IN NTU

DATE 1976	1 RAW WATER	3 RAW THRU G.A.C.	5 RAW THRU XE-340	7 H.T.EFFL.	9 H.T.EFFL. XE-340	11 FINISHED	13 FINISHED THRU XE-340
9/22	0.48	1.3	1.4	11	0.17	0.45	0.09
9/23	0.68	1.5	1.2	10	0.16	0.37	0.10
9/24	0.66	1.5	0.61	13	0.18	0.20	0.12
9/25	1.2	1.9	1.8	12	0.20	0.34	0.17
9/26	0.97	0.43	0.84	13	0.23	1.6	0.34
9/27	0.76	1.4	1.3	12	0.18	0.13	0.10
9/28	0.53	1.4	1.3	13	0.22	0.38	0.16
9/29	0.59	1.4	1.5	12	0.16	0.62	0.15
9/30	1.1	0.36	0.44	13	0.17	0.80	0.17
10/1	0.54	1.8	1.7	14	0.19	0.24	0.12
10/2	0.32	1.6	1.4	14	0.19	0.38	0.10
10/3	0.25	0.7	0.8	13	0.19	1.1	0.11
10/4	0.42	1.3	1.7	13	0.19	0.41	0.11
10/5	0.52	1.3	1.2	7.0	0.20	0.09	0.10
10/6	0.46	1.3	1.2	10	0.19	0.16	0.12
10/7	0.75	1.3	1.2	12	0.17	0.18	0.13
10/8	0.71	2.2	1.8	6.8	0.21	0.17	0.11
10/9	0.30	1.9	1.6	15	0.19	0.22	0.10
10/10	0.28	1.3	1.1	8	0.20	0.50	0.15
10/11	0.70	1.9	1.8	8	0.18	1.3	0.17
10/12	0.41	1.2	1.0	17	0.20	0.12	0.14
10/13	1.1	1.5	1.4	11	0.18	0.15	0.13
10/14	0.95	1.3	1.0	19	0.16	0.32	0.13
10/15	1.6	1.9	1.8	18	0.17	0.63	0.14
10/16	1.4	1.9	1.8	45	0.18	1.1	0.55
10/17	0.66	1.2	1.5	12	1.1	0.18	0.14
10/18	0.53	1.3	1.1	11	0.25	0.23	0.16
10/19	1.4	2.2	1.6	22	0.18	0.44	0.17
10/20	0.31	0.84	0.64	3.5	0.26	0.51	0.14

(continued)

TABLE 4 (continued)

TURBIDITY DATA IN NTU

DATE 1976	1 RAW WATER	3 RAW THRU G.A.C.	5 RAW THRU XE-340	7 H.T.EFFL.	9 H.T.EFFL. XE-340	11 FINISHED	13 FINISHED THRU XE-340
10/21	1.5	1.5	1.3	13	0.25	0.32	14 *
10/22	0.30	0.80	1.2	12	0.28	0.33	0.14
10/23	0.48	0.85	1.1	12	0.23	0.85	0.18
10/24	0.60	1.3	1.3	6.7	0.25	0.69	0.17
10/25	0.25	0.9	0.5	13	0.18	0.11	0.12
10/26	0.71	1.9	0.48	11	0.70	0.82	0.12
10/27	0.63	1.2	1.0	10	0.17	0.72	0.08
10/28	0.48	0.50	0.28	8.3	0.24	0.55	0.12
10/29	0.82	1.8	1.5	9.2	0.18	0.18	0.12
10/30	0.25	1.9	1.5	10	0.31	0.14	0.09
10/31	0.27	1.5	1.0	7.0	0.22	0.30	0.09
11/1	0.63	1.6	1.4	5	0.23	0.39	0.09
11/2	0.62	1.2	1.3	9.0	0.22	0.16	0.12
11/3	1.2	1.8	1.9	10	0.20	0.32	0.12
11/4	0.82	0.84	1.2	15	0.22	0.27	0.10
11/5	1.1	2.1	1.7	4.4	0.33	0.72	0.09
11/6	0.73	1.7	1.1	13	0.25	0.15	0.11
11/7	2.2	3.0	3.1	17	0.25	0.14	0.15
11/8	1.2	3.6	3.2	9.0	0.31	0.37	0.13
11/9	0.32	0.82	0.52	8.1	0.24	0.34	0.07
11/10	1.1	2.0	1.7	11	0.18	0.17	0.12
11/11	0.40	0.84	0.77	11	0.22	0.19	0.09
11/12	1.3	2.5	2.3	11	0.17	0.55	0.08
11/13	0.32	2.3	2.4	12	0.19	0.40	0.12
11/14	0.31	0.62	0.54	13	0.19	0.18	0.08
11/15	0.98	2.1	1.7	11	0.20	0.40	0.13
11/16	1.1	2.5	1.8	7.1	0.27	0.70	0.08
11/17	0.25	1.9	1.5	21	0.17	0.43	0.08
11/18	0.37	0.54	0.39	8.5	0.22	0.23	0.08
11/19	0.30	0.41	0.55	10	0.17	0.19	0.15

(continued)

TABLE 4 (continued)

TURBIDITY DATA IN NTU

DATE 1976	1 RAW WATER	3 RAW THRU G.A.C.	5 RAW THRU XE-340	7 H.T.EFFL.	9 H.T.EFFL. XE-340	11 FINISHED	13 FINISHED THRU XE-340
11/22	0.32	0.29	0.34	7.8	0.26	0.14	0.11
11/23	0.27	0.47	0.40	4.8	0.22	0.40	0.07
11/24	0.29	2.1	1.7	10	0.17	0.99	0.11
11/25	0.28	0.30	0.32	4.1	0.18	0.69	0.11
11/26	0.27	0.32	0.35	4.3	0.27	0.12	0.08
11/27	0.25	1.6	0.55	4.1	0.16	0.11	0.06
11/28	0.26	2.0	0.81	3.3	0.17	0.45	0.07
11/29	0.29	0.38	0.37	0.50	0.17	0.15	0.15
11/30	0.25	0.77	0.40	20	0.18	0.12	0.08
12/1	0.27	0.38	0.31	2.6	0.21	0.21	0.08
12/2	0.26	0.82	0.34	0.84	0.15	0.16	0.09
12/3	0.26	0.30	0.30	21	0.15	0.28	0.08
12/4	0.55	0.34	0.32	6.0	0.18	0.09	0.08
12/5	0.26	0.73	0.49	2.0	0.15	0.09	0.09
12/6	0.27	0.28	0.34	5.9	0.22	0.33	0.11
12/7	0.28	0.71	0.61	19	0.19	0.49	0.10

* tiny air bubbles in samples

TABLE 5 TURBIDITY DATA SIX-DAY AGED (ED1)

TURBIDITY DATA- SIX-DAY AGED SAMPLES IN NTU

DATE 1976	2 RAW WATER	4 RAW THRU G.A.C.	6 RAW THRU XE-340	8 H.T.EFFL.	10 H.T.EFFL. XE-340	12 FINISHED	14 FINISHED THRU XE-340
8/31	1.5	3.0	2.0	5.5	0.20	0.25	0.15
9/2	1.0	2.7	1.8	10	0.21	0.81	0.15
9/10	1.9	4.2	2.6	16	0.15	0.51	0.22
9/14	0.93	3.0	2.0	18	0.20	0.61	0.15
9/3	1.1	2.0	1.9	16	0.18	1.0	0.14
10/13	1.0	1.5	1.3	15	0.16	0.17	0.14
10/15	1.7	2.1	1.3	63	0.17	0.90	0.15
10/20	1.1	1.7	1.5	5	20*	0.76	0.29
10/22	1.6	0.86	0.86	23	0.24	0.39	0.27
10/27	0.90	1.2	1.2	18	1.6	1.2	0.12
10/29	1.7	1.5	1.3	23	0.18	0.27	0.22
11/3	1.2	1.3	1.6	23	0.52	0.43	0.13
11/5	1.7	2.0	1.6	3.7	0.19	0.85	0.15
11/10	1.1	1.8	1.5	12	0.31	0.17	0.13
11/12	1.5	1.7	1.2	5.6	0.16	0.42	1.0
11/17	1.3	2.3	1.9	15	0.16	1.0	0.10
11/24	1.6	1.8	1.6	17	0.17	0.84	0.18

* Tiny air bubbles in samples

TABLE 6 CHLORINE RESIDUAL DATA (ED1)

CHLORINE RESIDUAL DATA (ppm)

DATE	7 H.T. EFFL.		11 FINISHED		13 FINISHED THRU XE-340	
1976	FREE	TOTAL	FREE	TOTAL	FREE	TOTAL
8/15		0.05 ppm		3.0 ppm		0.05 ppm
8/22		0		2.5		0.05
8/23		0.05		2.6		0.05
8/24	0.10	0.25	2.0	3.0	0.10	0.60
8/25	0	0	2.6	3.0	0	0.50
8/26		0		3.0		0.05
8/27	0.10	0.25	3.0	3.0	0.15	0.65
8/31		0		2.5		0.10
9/1	0	0.20	2.8	3.0	0.10	0.60
9/2		0.25		3.0		0.70
9/3		0.45		3.0		0.60
9/4		0.2		4.0		0.5
9/5		0.10		2.5		0.15
9/6		off		2.0		0.15
9/7		0.10		3.6		0.60
9/8		0		2.5		0.10
9/9		0.05		2.7		0.15
9/10		0.10		3.0		0.30
9/11		0.10		2.5		0.20
9/12		0.05		2.8		0.20
9/13		0.10		2.5		0.20
9/14		0.10		2.5		0.20
9/15		0		3.0		0.20
9/16		0.05		4.0		0.60
9/17		0.10		2.8		0.15
9/18		0.10		3.0		0.25
9/19		0.05		2.5		0.25
9/20		0.05		1.8		0.30
9/21		0.10		1.8		0.15
9/22		0.05		25		0.25
9/23		0.05		3.0		0.25
9/24		0.05		2.7		0.30

(continued)

TABLE 6 (continued)

CHLORINE RESIDUAL DATA (ppm)

DATE	7 H.T.EFFL.		11 FINISHED		13 FINISHED THRU XE-340	
1976	FREE	TOTAL	FREE	TOTAL	FREE	TOTAL
9/25		0.10		2.5		0.25
9/26		0.05		1.8		0.15
9/27		0.10		2.7		0.30
9/28		0.05		2.7		0.30
9/29		0.05		2.5		0.20
9/30		0.05		2.7		0.15
10/1		0.10		2.5		0.20
10/2		0.05		3.0		0.50
10/3		0.05		2.5		0.20
10/4		0		1.8		0.15
10/5		0.05		1.8		0.15
10/6		0		1.5		0.15
10/7		0		1.8		0.20
10/8		0		1.5		0.20
10/9		0		2.0		0.15
10/10		0		3.5		0.4
10/11		0.10		2.5		0.35
10/12		0.15		4.0+		1.8
10/13		0.05		3.0		0.80
10/14	0	0.40	1.6	2.6	0.2	0.7
10/15	0	0.20	2.5	3.2	0.40	0.90
10/16	0	0.20	2.7	3.6	0.90	1.4
10/17	0	0.15	2.4	3.2	0.80	1.3
10/18	0	0.10	2.6	3.2	0.40	0.80
10/19	0	0.30	2.0	2.7	0.20	0.70
10/20	0	0.30	1.9	2.5	0.40	0.80
10/21	0	0.40	2.2	3.0	0.40	0.90
10/22	0	0.20	2.7	3.7	0.80	1.2
10/23	0	0.20	2.4	3.0	0.60	1.0

(continued)

TABLE 6 (continued)

CHLORINE RESIDUAL DATA (ppm)

	7		11		13	
DATE	H.T.EFFL.		FINISHED		FINISHED THRU XE-340	
1976	FREE	TOTAL	FREE	TOTAL	FREE	TOTAL
10/24	0	0.20	2.0	2.6	0.40	0.80
10/25	0	0.20	2.5	3.05	0.70	1.05
10/26	0	0.20	2.2	2.7	0.30	0.60
10/27	0	0.20	2.8	3.6	1.0	1.5
10/28	0	0.30	2.8	3.4	0.80	1.3
10/29	0	0.20	2.7	3.4	1.0	1.5
10/30	0	0.30	2.25	3.5	0.75	1.25
10/31	0	0.35	2.3	3.35	0.60	1.15
11/1	0	0.30	3.0	3.6	0.70	1.1
11/2	0	0.30	2.9	3.5	0.90	1.3
11/3	0	0.30	2.4	2.9	0.20	0.70
11/4	0	0.30	1.5	2.2	0.80	1.2
11/5	0	0.50	2.0	2.5	0.70	1.2
11/6	0	0.10	2.5	3.1	0.40	1.0
11/7	0	0.10	2.0	2.6	0.70	1.2
11/8	0	0.20	2.1	2.6	0.70	1.3
11/9	0	0.30	2.6	3.2	0.80	1.3
11/10	0	0.20	2.1	2.6	0.60	1.1
11/11	0	0.30	2.4	2.9	0.50	0.90
11/12	0	0.40	2.4	3.2	0.60	1.5
11/13	0	0	2.0	2.7	0.30	1.1
11/14	0	0.40	1.7	2.7	0.50	1.0
11/15	0	0.20	2.7	3.4	0.80	1.3
11/16	0	0.20	2.5	3.1	0.80	1.3
11/17	0	0.40	2.1	3.0	0.50	1.1
11/18	0	0.30	2.3	3.8	0.80	1.3
11/19	0	0.30	2.3	3.0	0.70	1.1
11/20	0	0.30	2.3	3.3	0.70	1.2

(continued)

TABLE 6 (continued)

CHLORINE RESIDUAL DATA (ppm)

DATE	7 H.T.EFFL.		11 FINISHED		13 FINISHED THRU XE-340	
1976	FREE	TOTAL	FREE	TOTAL	FREE	TOTAL
11/21	0	0.70	2.4	3.4	0.90	1.4
11/22	0	0.50	2.6	3.4	0.90	1.4
11/23	0	0.60	3.1	3.9	1.4	1.8
11/24	0	0.30	2.0	2.8	0.50	0.90
11/25	0	0.20	0.60	1.3	0.10	0.70
11/26	0	0.40	2.4	3.2	1.0	1.5
11/27	0	0.50	2.1	3.1	0.80	1.3
11/28	0	0.50	2.0	2.7	0.60	1.2
11/29	0	0.30	2.6	3.8	0.90	1.3
11/30	0	0.70	2.1	2.8	0.90	1.4
12/1	0	0.40	2.0	2.7	0.60	1.1
12/2	0	0.90	2.7	5.7	1.4	2.1
12/3	0	0.70	2.8	3.6	0.80	1.3
12/4	0	0.50	1.6	2.3	0.20	0.70
12/5	0	0.50	1.8	2.3	0.30	0.70
12/6	0	0.70	2.3	3.6	0.90	1.4
12/7	0	0.50	2.1	3.0	0.80	1.3

TABLE 7 CHLORINE RESIDUAL DATA SIX-DAY AGED (ED1)

CHLORINE RESIDUAL DATA: SIX-DAY AGED SAMPLES (ppm)

	8		12		14	
DATE	H.T.EFFL.		FINISHED		FINISHED THRU XE-340	
1976	FREE	TOTAL	FREE	TOTAL	FREE	TOTAL
8/31		0		0		0
9/2		0		0		0
9/10		0		0		0
9/14		0		0		0
9/30		0		0		0
10/13	0	0	0	0.10	0	0.20
10/15	0	0	0	0.20	0	0.10
10/20	0	0	0	0.20	0	0.10
10/22	0	0	0	0.10	0	0.05
10/27	0	0	0	0.20	0	0.10
10/29	0	0.05	0	0.10	0	0.05
11/3	0	0.05	0	0.20	0	0.10
11/5	0	0.20	0	0.20	0	0.10
11/10	0	0	0	0.30	0	0.20
11/12	0	0	0	0.20	0	0.10
11/17	0	0.05	0	0.20	0	0.10
11/24	0	0.05	0	0.20	0	0.10

TABLE 8 COLOR DATA (ED1)

Color Data in Platinum-Cobalt Units

	Initial							Six Days Later						
	Raw in	H.T.Effl.in	Finish in	Raw GAC	Raw XE-340	H.T.Effl.XE-340	Finish XE-340	Raw in	H.T.Effl.in	Finish in	Raw GAC	Raw XE-340	H.T.Effl.XE-340	Finish XE-340
Date	Station 1	7	11	3	5	9	13	2	8	12	4	6	10	14
8/20	47	27	5	42	45	14	6							
8/24	45	16	4	37	45	12	2							
8/25	48	17	3	43	44	11	3							
8/26	51	18	3	44	48	12	4							
8/27	53	17	3	45	48	12	4							
8/31	56	25	4	46	63									
10/13	33	19	4	31	34	14	3	48	25	4	46	51	11	4
10/15	61	23	4	60	61	15	4	60	48	4	58	51	14	5
10/20	44	20	3	51	53	14	3	51	12	4	47	50	44	4
10/22	34	22	2	44	53	14	3	55	27	3	37	45	12	6
10/27	48	20	2	50	52	10	0	51	24	6	45	47	15	6
10/29	55	24	1	60	58	15	4	58	19	3	47	47	11	5
11/3	47	28	3	57	58	15	4	46	31	2	43	52	9	3
11/5	54	14	2	65	63	10	2	63	16	5	54	51	11	5
11/10	46	21	4	54	52	14	4	55	19	3	53	51	12	4
11/12	53	20	3	53	51	12	4	54	22	4	51	53	12	4
11/17	32	17	3	61	61	11	2	58	17	5	57	57	12	5
11/19	32	19	2	61	65	12	4							
11/24	32	20	4	75	67	15	4	61	30	8	55	55	14	6
12/1	35	12	4	48	50	11	4							
12/3	34	32	2	48	51	10	3							
12/7	32	85	5	55	57	11	4							

TABLE 9 SIX-DAY AGED, SPIKED (ED1)

Six-Day Aged, Spiked Samples

Chlorine Residual (ppm)

DPD Titration - Free and Total

Samples aged 6 days (Buffered and Chlorinated)

Sample Station:		2		4		6		8		10		12		14	
		Raw in		Raw GAC		Raw XE-340		H.T. in		H.T.XE-340		Finish in		Fin.XE-340	
Date Sampled	Date Tested	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total
10/13	10/19			28		27		13		11		23		15	
10/15	10/21	26		26		26		9		11		15		20	
10/20	10/26	48		40		41		8		10		20		17	
10/22	10/29	24		26		20		18		13		23		19	
10/27	11/3	18		22		19		11		11		20		16	
10/29	11/5	27	29	22	24	24	25	4	10	0	8	3	11	1	10
11/3	11/9	48	78	42	54	72	84	30	60	24	48	24	60	24	48
11/5	11/12	5	9	6	12	4	9	3	6	6	9	6	12	4	18
11/10	11/16	16	18	14	17	16	17	5	17	0	10	4	12	2	10
11/12	11/18	18	20	18	21	21	23	9	13	5	11	11	13	12	14
11/17	11/24	15	17	20	21	18	20	5	14	5	11	5	11	5	10

TABLE 10 SIX-DAY AGED, SPIKED (ED1)

Six-Day Aged, Spiked Samples pH Residual

Samples aged 6 days (Buffered and Chlorinated)

Sample Station:		2	4	6	8	10	12	14
Date Sampled	Date Tested	Raw In	Raw GAC	Raw XE-340	H.T. In	H.T. XE-340	Finish In	Finish XE-340
10/13	10/19	8.8	8.8	8.8	9.1	9.1	9.1	9.1
10/15	10/21	8.8	8.8	8.8	9.05	9.05	9.05	9.05
10/20	10/26	8.6	8.6	8.6	8.9	8.9	8.9	8.9
10/22	10/29	8.7	8.7	8.7	9.0	9.0	9.0	9.0
10/27	11/3	8.7	8.8	8.75	9.0	9.0	9.0	9.0
10/29	11/5	8.7	8.7	8.7	9.0	9.0	9.0	9.0
11/3	11/9	8.9	8.9	8.9	9.0	9.0	9.0	9.0
11/5	11/12	8.9	8.9	8.9	8.9	8.9	8.9	8.9
11/10	11/16	8.95	8.95	8.95	9.0	9.0	8.95	8.95
11/12	11/18	8.95	8.95	8.95	8.95	8.95	8.90	8.95
11/17	11/24	8.95	8.95	8.95	9.0	9.0	9.0	9.0

TABLE 11 MISCELLANEOUS DATA (ED1)

Miscellaneous Data

I. Data on Raw Water Left Standing in an Open Beaker 11/11/76.

Time (Min.)	Turbidity	pH	Color
0	0.25 NTU	7.15	34 PCU
5	0.34	7.20	35
10	0.45	7.20	37
15	0.65	7.20	37
20	0.72-1.0+	7.20	42
25	1.3	7.25	43
30	1.5	7.30	44
60	2.3	7.25	61
120	2.6	7.30	70
180	2.6	7.30	74
240	2.6	7.35	76
300	2.5	7.40	74
360	2.5	7.50	72

The increase in turbidity and color could be due to the formation of colloidal iron compound(s).

II. A BOD bottle of raw water was stored in the dark for 24 hours and then compared with fresh raw water. The day old raw water was filtered thru an MP filter and the filtrate compared.

Test	Fresh	Day Old Unfiltered	Day Old Filtered
pH	7.15	7.15	7.15
Fe	1.04ppm	1.0 ppm	0.5 ppm
Color	34 PCU	78 PCU	47 PCU

(continued)

TABLE 11 (continued)

III. Heavy Metals, Mercury and Copper

Date	Water Source	Test	Results
9/14/76	Raw in (1)	Mercury	0.002 ppm
"	Finish in (11)	"	0.004 "
"	Raw out GAC (3)	"	0.002 "
"	Raw out XE-340 (5)	"	0.002 "
"	H.T. out XE-340 (7)	"	0.002 "
"	Finish out XE-340 (13)	"	0.002 "
9/21/76	Raw in (1)	Copper	0.011 "
"	Finish in (11)	"	0.906 "
"	Raw out GAC (3)	"	0.016 "
"	Raw out XE-340 (5)	"	0.028 "
"	H.T. out XE-340 (9)	"	0.020 "
"	Finish out XE-340 (13)	"	0.032 "

IV. Bacteria, Total Coliform Colonies/100 ml as determined by membrane filter techniques.

Date	Raw GAC	Raw XE-340	H.T. XE-340	Finish XE-340
9/29/76	+4	+10	+1	-1
10/8/76	+25	+35	-1	-1
10/14/76	-1	-1	-1	-1
10/22/76	-1	-1	-1	-1

TABLE 12 SUMMARY OF PREVIOUS TABLES (ED1)

Sample	INITIAL Sample no.	TURBIDITY in NTU's max.	min.	ave.	Six-Day Aged Sample no.	max.	min.	ave.
Raw in	1	1.9	0.20	0.62	2	1.7	0.90	1.3
Raw thru GAC	3	3.6	0.24	1.27	4	4.2	0.80	2.0
Raw thru XE-340	5	3.2	0.27	1.08	6	2.6	0.70	1.6
H.T. Effl.	7	100.5	0.50	10.2	8	63	3.7	16
H.T. Effl. thru XE-340	9	1.1	0.15	0.22	10	20	0.15	1.5
Finished in	11	2.0	0.08	0.39	12	1.2	0.17	0.64
Finished thru' XE-340	13	0.75	0.06	0.12	14	1.0	0.10	0.22
		pH						
same as above	1	7.3	7.0	7.2	2	7.3	7.1	7.2
	3	7.6	7.1	7.3	4	7.3	7.1	7.2
	5	7.5	7.1	7.3	6	7.4	7.1	7.2
	7	10.4	8.8	9.8	8	10.2	8.3	9.6
	9	10.3	8.6	9.8	10	9.9	8.8	9.6
	11	10.2	7.7	9.2	12	9.4	8.2	8.9
	13	10.1	8.1	9.06	14	9.6	8.1	8.9
		Free and Total Chlorine Residuals (ppm)						
H.T. Effl. free	7	0.10	0.0	0.0	8	0.00	0.0	0.0
total		0.90	0.0	0.19		0.20	0.0	0.04
H.T. effl. thru XE-340 free	9	0.0	0.0	0.0	10	0.0	0.0	0.0
total		0.10	0.0	0.0		0.0	0.0	0.0
Finish in free	11	3.1	0.0	2.25	12	0.0	0.0	0.0
total		5.7	1.3	2.85		0.30	0.0	0.13
Finished thru XE-340, free	13	1.4	0.0	0.65	14	0.0	0.0	0.0
total		2.1	0.0	0.75		0.70	0.0	0.06

(continued)

TABLE 12 (continued)

		Color (PCU)						
		INITIAL				Six-Day Aged		
Sample No.	Sample	max.	min.	ave.	Sample No.	max.	min.	ave.
1	Raw in	61	32	44	2	63	46	55
3	Raw thru GAC	75	31	51	4	58	43	50
5	Raw thru XE-340	67	34	54	6	57	45	51
7	H.T. Effl. in	85	12	23	8	48	12	23
9	H.T. Effl. thru XE-340	17	10	13	10	15	9	12
11	Finished in	5	1	3	12	8	2	4
13	Finished thru XE-340	6	0	3	14	6	3	5

		Chlorine Residual (ppm)								
		Free			Total			pH		
Sample No.	Sample	max.	min.	ave.	max.	min.	ave.	max.	min.	ave.
2	Raw in	48	5	23	78	9	26	8.95	8.6	8.82
4	Raw thru GAC	42	6	23	54	10	23	8.95	8.6	8.8
6	Raw thru XE-340	72	3	24	84	5	26	8.95	8.6	8.8
8	H.T. Effl.	30	0	10	60	1	17	9.1	8.9	9.0
10	H.T.Effl.thru XE-340	24	0	8	48	6	14	9.1	8.9	9.0
12	Finished in	24	1	13	60	4	18	9.1	8.9	9.0
14	Finished thru XE-340	24	1	11	48	9	17	9.1	8.9	9.0

TABLE 13   RAINFALL DATA (PRIOR TO ED1)

JUNE	IN.	JULY	IN.	AUG.	IN.				
1	0	1	0	1	.16				
2	.07	2	0	2	.06				
3	.01	3	0	3	0				
4	.06	4	0	4	0				
5	.03	5	0	5	.04				
6	0	6	0	6	.15				
7	.05	7	2.17	7	.03				
8	1.46	8	.01	8	0				
9	.64	9	.31	9	.47				
10	1.05	10	tr.	10	0				
11	1.01	11	.02	11	.76				
12	.07	12	.88	12	.05				
13	0	13	0						
14	tr.	14	0						
15	.16	15	0						
16	0	16	0						
17	0	17	0						
18	tr.	18	0						
19	1.03	19	.30						
20	0	20	0						
21	0	21	0						
22	.04	22	0						
23	1.08	23	0						
24	.05	24	.02						
25	0	25	.02						
26	tr.	26	0						
27	0	27	0						
28	0	28	.10						
29	tr.	29	tr.						
30	tr.	30	tr.						
		31	0						

TABLE 14 CHLORIDES IN RAW WATER (PRIOR TO ED1)

JUNE	ppm	JULY	ppm	AUG.	ppm
1	60	1	58	1	-
2	58	2	58	2	57
3	61	3	-	3	58
4	63	4	-	4	-
5	-	5	-	5	-
6	-	6	62	6	-
7	60	7	61	7	-
8	59	8	60	8	-
9	60	9	-	9	57
10	59	10	-	10	58
11	59	11	-	11	57
12	-	12	58	12	57
13	-	13	59		
14	59	14	61		
15	57	15	60		
16	60	16	64		
17	58	17	-		
18	59	18	-		
19	-	19	64		
20	-	20	58		
21	60	21	-		
22	60	22	-		
23	60	23	56		
24	59	24	-		
25	60	25	-		
26	-	26	-		
27	-	27	58		
28	59	28	59		
29	62	29	60		
30	60	30	63		

TABLE 15 RAINFALL DATA (ED1)

AUG.	IN.	SEPT.	IN.	OCT.	IN.	NOV.	IN.	DEC.	IN.
		1	0	1	.44	1	0	1	.10
		2	0	2	0	2	.75	2	.01
		3	.81	3	0	3	.77	3	0
		4	.26	4	0	4	0	4	0
		5	.38	5	0	5	0	5	tr.
		6	0	6	0	6	0	6	.02
		7	0	7	0	7	0	7	0
		8	.32	8	.05	8	0		
		9	tr.	9	.57	9	0		
		10	.05	10	0	10	0		
		11	.66	11	tr.	11	0		
		12	.38	12	0	12	.05		
13	.29	13	.01	13	0	13	0		
14	.05	14	.17	14	.20	14	0		
15	.05	15	.96	15	0	15	.18		
16	1.31	16	0	16	tr.	16	0		
17	.15	17	tr.	17	.69	17	tr.		
18	.67	18	.40	18	.40	18	.34		
19	3.07	19	1.81	19	.03	19	0		
20	.82	20	tr.	20	1.93	20	0		
21	0	21	0	21	0	21	.60		
22	tr.	22	.07	22	0	22	tr.		
23	.26	23	.40	23	0	23	0		
24	.06	24	.70	24	0	24	tr.		
25	.08	25	.20	25	0	25	0		
26	tr.	26	0	26	tr.	26	0		
27	.92	27	0	27	0	27	0		
28	0	28	0	28	.11	28	tr.		
29	tr.	29	tr.	29	0	29	tr.		
30	0	30	.17	30	0	30	0		
31	0			31	0				

TABLE 16 CHLORIDES IN RAW WATER (ED1)

AUG.	ppm	SEPT.	ppm	OCT.	ppm	NOV.	ppm	DEC.	ppm
		1	53	1	52	1	53	1	52
		2	55	2	-	2	54	2	52
		3	54	3	-	3	53	3	49
		4	-	4	53	4	52	4	-
		5	-	5	53	5	53	5	-
		6	-	6	53	6	-	6	51
		7	54	7	52	7	-	7	51
		8	51	8	52	8	54		
		9	53	9	-	9	52		
		10	52	10	-	10	54		
		11	-	11	-	11	53		
		12	-	12	52	12	52		
13	56	13	51	13	52	13	-		
14	-	14	53	14	54	14	-		
15	-	15	-	15	52	15	52		
16	52	16	53	16	-	16	53		
17	53	17	53	17	-	17	53		
18	53	18	-	18	50	18	53		
19	53	19	-	19	53	19	53		
20	53	20	53	20	53	20	-		
21	-	21	53	21	52	21	-		
22	-	22	53	22	51	22	52		
23	51	23	52	23	-	23	52		
24	53	24	52	24	-	24	53		
25	53	25	-	25	-	25	-		
26	53	26	-	26	52	26	-		
27	51	27	52	27	52	27	-		
28	-	28	52	28	52	28	-		
29	-	29	53	29	53	29	54		
30	52	30	52	30	-	30	53		
31	51								

TABLE 17 cis-1,2-DICHLOROETHENE DATA SHEET (ED1)

Date	Day	Sample 1	Sample 3	μg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
8/13/77	0	15.3	N	N	17.5	N	9.0	1.1
20	7	25.9	3.4	N	13.4	N	8.7	17.9
22	9	20.2	N	N	20.0	14.0	7.1	.4
26	13	29.0	N	N	18.3	.20	11.7	N
9/2/77	20	33.6	N	N	3.0	N	7.9	N
14	32	53.0	3.5	N	45.0	N	7.5	N
10/13/77	61	30.0	9.6	.90	22.8	1.70	4.7	N
15	64	21.0	13.6	1.40	20.3	2.6	10.6	2.3
20	69	36.0	19.0	2.4	28.0	15.0	16.0	3.8
22	71	13.7	8.9	.20	10.2	1.90	11.0	1.60
27	76	22.5	14.8	4.2	20.3	2.4	11.5	3.9
29	78	20.1	14.0	3.8	20.2	3.1	11.6	1.6
11/3/77	83	18.8	13.1	2.9	17.7	17.8	6.8	3.6
5	85	22.0	16.0	3.6	18.8	2.7	14.4	4.7
10	90	23.9	15.9	4.7	20.7	3.6	14.9	6.1
12	92	16.8	20.4	4.8	19.9	4.1	11.8	5.6
17	97	22.2	20.9	6.0	20.7	5.4	13.8	7.6
24	104	32.8	23.5	4.5	24.7	4.5	15.4	8.1
12/7/77	117	19.4	16.5	3.9	18.1	4.0	12.5	8.9

TABLE 18 CHLOROFORM DATA SHEET (ED1)

µg/l

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
8/13/77	0	N	N	N	.40	N	93.0	N
20	7	.70	2.0	N	.20	N	72.0	4.5
22	9	N	N	N	2.0	4.0	66.0	2.6
26	13	.07	N	N	1.20	.20	118	2.4
9/2/77	20	N	N	N	1.50	N	50.0	4.4
14	32	N	N	N	5.5	N	71.0	3.4
10/13/77	61	N	N	N	.80	N	104	34.0
15	64	N	N	N	2.7	.70	77.5	42.0
20	69	N	N	N	2.9	.90	105	51.0
22	71	.70	.50	N	3.3	1.2	87.0	49.0
27	76	N	N	N	1.90	.40	91.0	37.0
29	78	N	N	N	5.6	1.00	84.0	15.0
11/3/77	83	N	N	N	4.6	3.2	78.0	41.0
5	85	N	N	N	10.3	.80	76.3	38.4
10	90	N	N	N	4.4	.90	71.3	40.9
12	92	N	N	N	4.3	1.30	75.2	48.6
17	97	N	N	N	3.0	1.70	79.1	59.7
24	104	N	N	N	7.4	1.30	73.4	45.8
12/7/77	117	N	N	N	13.4	2.30	52.2	46.6

TABLE 19 BROMODICHLOROMETHANE DATA SHEET (ED1)

Date	Day	Sample 1	Sample 3	μg/1 Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
8/13/77	0	N	N	N	N	N	35.6	N
20	7	N	N	N	N	N	44.4	N
22	9	N	N	N	N	2.3	40.7	.90
26	13	N	N	N	N	N	54.5	N
9/2/77	20	N	N	N	N	N	29.0	N
14	32	N	N	N	N	N	38.0	N
10/13/77	61	N	N	N	.80	N	21.0	4.8
15	64	N	N	N	.90	N	33.3	7.3
20	69	N	N	N	1.60	N	57.0	13.9
22	71	N	N	N	.40	.05	23.6	4.7
27	76	N	N	N	.80	.10	39.1	10.9
29	78	N	N	N	2.2	.06	36.0	3.9
11/3/77	83	N	N	N	1.8	.90	32.3	11.1
5	85	N	N	N	5.0	.07	34.0	7.7
10	90	N	N	N	2.8	.20	43.8	14.6
12	92	N	N	N	2.4	N	30.2	11.8
17	97	N	N	N	2.6	.13	46.9	20.3
24	104	N	N	N	3.7	.20	35.9	15.1
12/7/77	117	N	N	N	6.5	.50	29.2	18.2

TABLE 20 CHLORODIBROMOMETHANE DATA SHEET (ED1)

Date	Day	Sample 1 (μg/l)	Sample 3 (μg/l)	Sample 5 (μg/l)	Sample 7 (μg/l)	Sample 9 (μg/l)	Sample 11 (μg/l)	Sample 13 (μg/l)
8/13/77	0	N	N	N	N	N	8.3	N
20	7	N	N	N	N	N	16.7	N
22	9	N	N	N	N	N	8.1	N
26	13	N	N	N	N	N	10.3	N
9/2/77	20	N	N	N	N	N	8.0	N
14	32	N	N	N	N	N	10.1	N
10/13/77	61	N	N	N	N	N	3.7	.60
15	64	N	N	N	.50	N	15.6	1.10
20	69	N	N	N	.50	N	17.5	1.80
22	71	N	N	N	.10	N	9.4	.90
27	76	N	N	N	.30	N	8.3	1.30
29	78	N	N	N	1.10	N	17.7	1.00
11/3/77	83	N	N	N	.70	.10	15.7	3.1
5	85	N	N	N	2.0	N	13.2	2.0
10	90	N	N	N	.90	N	18.8	3.0
12	92	N	N	N	.50	N	16.5	.25
17	97	N	N	N	1.10	N	8.4	5.8
24	104	N	N	N	1.30	.17	10.1	3.9
12/7/77	117	.04	N	N	2.7	.20	11.2	4.4

TABLE 21 BROMOFORM DATA SHEET (ED1)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
8/13/77	0	N	N	N	N	N	N	N
20	7	N	N	N	N	N	N	N
22	9	N	N	N	N	N	N	N
26	13	N	N	N	N	N	N	N
9/2/77	20	N	N	N	N	N	N	N
14	32	N	N	N	N	N	N	N
10/13/77	61	N	N	N	N	N	N	N
15	64	N	N	N	N	N	N	N
20	69	N	N	N	N	N	N	N
22	71	N	N	N	N	N	N	N
27	76	N	N	N	N	N	N	N
29	78	N	N	N	N	N	N	N
11/3/77	83	N	N	N	.4	N	N	N
5	85	N	N	N	N	N	N	N
10	90	N	N	N	.60	N	N	N
12	92	N	N	N	.45	N	.89	N
17	97	N	N	N	N	N	.77	N
24	104	N	N	N	N	N	N	.30
12/7/77	117	.50	.20	N	.30	.07	.20	.47

TABLE 22 INSTANTANEOUS THM (ED1)

		µg/l						
Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
10/13/76	61	N	N	N	1.6	N	129	39.4
15	64	N	N	N	4.1	0.7	126	50.4
20	69	N	N	N	5.0	0.9	180	66.7
22	71	0.7	0.5	N	3.8	1.3	120	54.6
27	76	N	N	N	3.0	0.5	138	49.2
29	78	N	N	N	8.9	1.1	138	19.9
11/3/76	83	N	N	N	7.5	4.2	126	55
5	85	N	N	N	17.3	0.9	124	48
10	90	N	N	N	8.8	0.1	134	59
12	92	N	N	N	7.7	1.3	123	61
17	97	N	N	N	6.7	1.8	135	86
24	104	N	N	N	12.4	1.7	119	65
12/7/76	117	N	N	N	22.9	3.1	93	70

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TABLE 23 TERMINAL THM (ED1)

		µg/l						
Date	Day	Sample 2	Sample 4	Sample 6	Sample 8	Sample 10	Sample 12	Sample 14
10/13/76	61	745	776	772	591	465	553	477
15	64	809	743	815	547	495	606	555
20	69	867	768	-	545	498	585	507
22	71	790	726	730	507	468	531	493
27	76	1047	780	806	512	378	553	526
29	78	855	734	828	539	509	647	544
11/3/76	83	775	717	817	784	671	766	752
5	85	-	-	-	-	-	-	-
10	90	809	759	872	515	653	495	588
12	92	844	724	876	560	531	435	664
17	97	-	947	1147	774	883	913	776
24	104	-	-	-	-	-	-	-
12/7/76	117	617	641	666	505	509	284	459

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PAGE NUMBER

TABLE 24 THM FP (ED1)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
				µg/l				
10/13/76	61	745	776	772	590	465	424	438
15	64	809	743	815	543	494	480	505
20	69	867	768	-	540	497	405	440
22	71	790	726	730	503	467	411	438
27	76	1047	780	806	509	377	415	477
29	78	855	734	828	530	508	509	524
11/3/76	83	775	717	817	776	667	640	697
10	90	809	759	872	498	653	361	529
12	92	844	724	876	551	530	312	603
17	97	-	947	1147	766	881	778	690
12/7/76	117	617	641	666	502	506	191	389
average*		816	757	833	573	550	448	521

* average of total column of data

EXPERIMENTAL DESIGN 1R

Specific Data on

Backwash Dates and Time,

pH, Turbidity, Color,

Chlorine (Free and Total), and

TOC

TABLE 1 VOLUMES AND BACKWASH TIMES (ED1R)

	VOLUMES AND BACKWASH TIMES											
	Finish XE-340			H.T. Effl. XE-340			Raw XE-340			Raw GAC		
Date	Time Off	Time BW	Total Volume	Time Off	Time BW	Total Volume	Time Off	Time BW	Total Volume	Time Off	Time BW	Total Volume
1/18	Start Time 7:30 A.M. 1/18/77											
1/19			24.0	0.8	0.5	23.2			24.0			24.0
1/20			48.0	0.8	0.5	46.4			48.0			48.0
1/21			72.0	0.8	0.5	69.6			72.0			72.0
1/22			96.0	18	0	75.6			96.0			96.0
1/23			120.0	24	0	75.6			120.0			120.0
1/24	0.3	0.3	143.7	3	0.5	96.6	0.3	0.3	143.7	0.3	0.3	143.7
1/25			167.7	0.8	0.5	119.8			167.7			167.7
1/26			191.7	0.8	0.5	143.0			191.7			191.7
1/27			215.7	0.8	0.5	166.2			215.7			215.7
1/28			239.7	0.8	0.5	189.4			239.7			239.7
1/29			263.7	0.8	0.5	212.6			263.7			263.7
1/31			311.7	0.8	0.5	235.8			311.7			311.7
2/1			335.7	0.8	0.5	259.0			335.7			335.7
2/2			359.7	0.8	0.5	282.2			359.7			359.7
2/3			383.7	0.8	0.5	305.4			383.7			383.7
2/4	0.3	0.3	407.4	0.8	0.5	328.6			407.7			407.7
2/5			431.4	0.8	0.5	351.8			431.7			431.7
2/6			455.4	0.8	0.5	375.0			455.7			455.7
2/7			479.4	2	0.5	397.0			479.7			479.7
2/8			503.4	0.8	0.5	420.2			503.7			503.7
2/9			527.4	0.8	0.5	443.4			527.7			527.7
2/10	0.3	0.3	551.1	0.8	0.5	466.6			551.7			551.7
2/11			575.1	0.8	0.5	489.8			575.7			575.7
2/12			599.1	1	0.8	512.8			599.7			599.7
2/13			623.1	1	0.8	535.8			623.7			623.7
2/14			647.1	1	0.8	558.8			647.7			647.7
2/15			671.1	1	0.8	581.8			671.7			671.7
2/16			695.1	1	0.8	604.8			695.7			695.7
2/17			719.1	1	0.8	627.8			719.7			719.7
2/18	0.3	0.3	742.8	1	0.8	650.8			743.7			743.7
2/19			766.8	1	0.8	673.8			767.7			767.7
2/20			790.8	1	0.8	697.0			791.7			791.7

(continued)

TABLE 1 (continued)

VOLUMES AND BACKWASH TIMES

Date	Finish XE-340 Time Off	BW	Total Volume	H.T. Effl. XE-340 Time Off	BW	Total Volume	Raw XE-340 Time Off	BW	Total Volume	Raw GAC Time Off	BW	Total Volume
2/21			814.8	0.8	0.6	720.4			815.7			815.7
2/22			838.8	1.5	1	742.9			839.7			839.7
2/23			862.8	0.8	0.8	766.1			863.7			863.7
2/24			886.8	1	0.8	789.1			887.7			887.7
2/25	0.2	0.2	910.6	0.8	0.6	812.3			911.7			911.7
2/26			934.6	0.6	0.5	835.7			935.7			935.7
2/27			958.6	0.7	0.5	859.0			959.7			959.7
2/28			982.6	1.2	1	881.8			983.7			983.7
3/1			1006.6	1	0.8	904.8			1007.1			1007.1
3/2			1030.6	0.8	0.8	928.0			1031.7			1031.7
3/3			1054.6	0.6	0.6	951.4			1055.7			1055.7
3/4			1078.6	0.8	0.8	974.6			1079.7			1079.7
3/5			1102.6	0.7	0.7	997.9			1103.7			1103.7
3/6			1126.6	0.7	0.6	1021.2			1127.7			1127.7
3/7	0.3	0.3	1174.3	1.2	1.2	1067.2			1175.7			1175.7
3/9			1198.3	0.8	0.5	1090.4			1199.7			1199.7
3/10			1222.3	0.8	0.8	1113.6			1223.7			1223.7
3/11			1246.3			1137.6			1247.7			1247.7
3/12			1270.3	1.5	1.5	1161.1			1271.7			1271.7
3/13			1294.3	0.8	0.8	1184.3			1295.7			1295.7
3/14			1318.3	1	1	1207.3			1319.7			1319.7
3/15			1342.3	1.2	1	1230.1			1343.7			1343.7
3/16			1366.3	0.5	0.5	1253.6			1367.7			1367.7
3/17			1390.3	1	1	1276.6			1390.7			1390.7
3/18			1414.3	0.8	0.8	1299.8			1414.7			1414.7
3/19	0	0	1438.3	0.6	0.5	1323.2	0	0	1438.7	0	0	1438.7
3/20	0	0	1462.3	0.6	0.5	1346.6	0	0	1462.7	0	0	1462.7
3/21			1486.3	1.2	1.0	1369.4			1486.7			1486.7
3/22			1510.3	5.2	0.8	1388.2			1510.7			1510.7
3/23			1534.3	0.8	0.8	1411.4			1534.7			1534.7
3/24			1558.3	1	1	1434.4			1558.7			1558.7
3/25			1582.3	1.5	1.5	1456.9			1582.7			1582.7
3/26	0.3	0.3	1606.0	1	1	1479.9			1606.7			1606.7

(continued)

TABLE 1. (continued)

VOLUMES AND BACKWASH TIMES

	Finish XE-340			H.T.Effl. XE-340			Raw XE-340			Raw GAC		
Date	Time Off	Time BW	Total Volume	Time Off	Time BW	Total Volume	Time Off	Time BW	Total Volume	Time Off	Time BW	Total Volume
3/27			1630.0	0.8	0.8	1503.1			1630.7			1630.7
3/28			1654.0	0.8	0.8	1526.3			1654.7			1654.7
3/29			1678.0	0.8	0.8	1549.5			1678.7			1678.7
3/30			1702.0	1.0	1.0	1572.5			1702.7			1702.7
3/31			1726.0	0.8	0.8	1596.7			1726.7			1726.7
4/1			1750.0	0.8	0.8	1619.9			1750.7			1750.7
4/2			1774.0	0.7	0.5	1643.2			1774.7			1774.7
4/3			1798.0	0.8	0.6	1666.4			1798.7			1798.7
4/4			1822.0	1.0	0.7	1689.4			1822.7			1822.7
4/5			1846.0	1	1	1712.4			1846.7			1846.7
4/6			1970.0	1	1	1735.4			1870.7			1870.7
4/7			1894.0	1	1	1758.4			1894.7			1894.7
4/8			1918.0	.8	.8	1781.6			1918.7			1918.7
4/9			1942.0	1	1	1804.6			1942.7			1942.7
4/10			1966.0	1	1	1827.6			1966.7			1966.7
/11			1990.0	1	1	1850.6			1990.7			1990.7
4/12			2014.0	1	1	1873.6			2014.7			2014.7
4/13			2038.0	1	1	1896.6			2038.7			2038.7
4/14			2062.0	1	1	1919.6			2062.7			2062.7
4/15			2086.0	1	1	1942.6			2086.7			2086.7
4/16			2110.0	0.8	0.5	1965.8			2110.7			2110.7
4/17	0.5	0.5	2157.5	1.5	1.5	2012.6			2158.7			2158.7
4/19			2181.5	1	1	2035.6			2182.7			2182.7
4/20			2205.5	1	1	2058.6			2206.7			2206.7
4/21			2229.5	1	1	2081.6			2230.7			2230.7
4/22			2253.5	1	1	2104.6			2254.7			2254.7
4/23			2277.5	1	1	2127.6			2278.7			2278.7
4/24			2301.5	1	1	2150.6			2302.7			2302.7
4/25			2325.5	1	1	2173.6			2326.7			2326.7
4/26			2349.5	1	7	2196.6			2350.7			2350.7
4/27			2373.5	1	8	2219.6			2374.7			2374.7
4/28			2397.5	1	.7	2242.6			2398.7			2398.7
4/29			2421.5	1	.8	2265.6			2422.7			2422.7
4/30			2445.5	.7	.6	2288.9			2446.7			2446.7

(continued)

TABLE 1 (continued)

VOLUMES AND BACKWASH TIMES,

	Finish XE-340			.H.T.Effl. XE-340			Raw XE-340			Raw GAC		
	Time		Total	Time		Total	Time		Total	Time		Total
Date	Off	BW	Volume	Off	BW	Volume	Off	BW	Volume	Off	BW	Volume
5/1			2469.5	1	.8	2311.9			2470.7			2470.7
5/2	0.2	0.2	2493.3	3	2	2333.9			2494.7			2494.7
5/3*			2516.3	1	1	2355.9			2517.7			2517.7
5/4			2540.3	1	1	2378.9			2541.7			2541.7
5/5			2564.3	1	1	2401.9			2565.7			2565.7
5/6			2588.3	1	1	2424.9			2589.7			2589.7
5/7			2612.3	1	1	2448.9			2613.7			2613.7
5/8			2636.3	1	1	2471.9			2637.7			2637.7
5/9			2660.3	1	.7	2494.9			2661.7			2661.7
5/10			2684.3	1	1	2517.9			2685.7			2685.7
5/11			2708.3	.7	.6	2541.2			2709.7			2709.7
5/12			2732.3	0.8	0.8	2564.4			2733.7			2733.7
5/13			2756.3	0.7	0.7	2587.7			2757.7			2757.7
5/14			2780.3	0.7	0.7	2611.0			2781.7			2781.7
5/15			2804.3	0.6	0.5	2634.4			2805.7			2805.7
5/16	0.5	0.5	2827.8	1	1	2657.4			2829.7			2829.7
5/17			2851.8	0.8	0.8				2853.7			2853.7
5/18			2875.8	0.7	0.7	2703.9			2877.7			2877.7
5/19			2899.8	0.8	0.8	2727.1	0.5		2901.2	0.5		2901.2
5/20			2923.8	0.7	0.7	2750.4			2925.2			2925.2
5/21			2947.8	0.8	0.8	2773.6			2949.2			2949.2
5/22			2971.8			2797.6			2973.2			2973.2
5/23			2995.8	1	1	2820.6			2997.2			2997.2
5/24	0.5	0.5	3019.3	1	1	2845.6	0.5	0.5	3002.7	0.5	0.5	3002.7
5/25			3043.3	Shut down as of 1:00 p.m., 5/24/77								
5/26			3067.3									
5/27			3091.3									
5/28			3115.3									
5/29			3139.3									
5/30			3163.3									
5/31			3187.3									

* Made an adjustment for daylight savings time.

TYPING GUIDE SHEET

TABLE 2 pH DATA (ED1R)

	pH DATA						
Date 1977	1 Raw In	3 Raw Out GAC	5 Raw Out XE-340	7 H.T. Effl. In	9 H.T. Effl. Out XE-340	11 Finish In	13 Finish Out XE-340
1/18	7.0	7.2	7.1	10.1	9.9	9.5	9.2
1/19	7.0	7.1	7.0	10.0	9.9	9.3	9.2
1/20	6.9	7.0	7.0	10.0	10.0	9.2	9.1
1/21	6.8	7.0	7.0	10.0	9.7	9.2	9.7
1/22	6.8	6.9	6.9	off	off	9.2	9.1
1/23	6.8	6.9	6.9	off	off	9.3	9.2
1/24	6.7	6.8	6.8	off	off	9.0	8.9
1/25	6.8	7.0	6.9	9.8	off	9.3	9.2
1/26	6.8	7.0	6.9	9.5	9.3	8.9	8.9
1/27	7.1	7.3	7.2	10.0	9.6	9.3	9.4
1/28	7.1	7.3	7.2	9.6	9.4	9.1	9.0
1/29	7.1	7.3	7.3	10.0	9.8	9.4	9.4
1/31	7.1	7.2	7.3	9.9	9.7	9.3	9.2
2/1	7.1	7.3	7.3	9.5	9.5	9.2	9.3
2/2	7.1	7.3	7.2	9.7	9.7	9.2	9.0
2/3	7.1	7.3	7.2	9.9	9.8	9.3	9.3
2/4	7.2	7.2	7.4	9.8	9.7	9.5	9.3
2/5	7.2	7.4	7.3	9.8	9.7	9.3	9.3
2/6	7.1	7.3	7.2	9.6	9.4	9.1	9.2
2/7	7.0	7.2	7.3	9.6	9.5	9.2	9.2
2/8	7.0	7.4	7.3	9.8	9.5	9.1	9.0
2/9	7.0	7.2	7.2	9.7	9.5	9.1	9.3
2/10	7.0	7.2	7.3	10.1	9.9	9.3	9.0
2/11	7.1	7.4	7.3	9.8	9.6	9.3	9.1
2/12	7.2	7.3	7.3	9.9	9.7	9.4	9.3
2/13	7.15	7.35	7.5	9.7	9.6	9.4	9.3
2/14	7.3	7.5	7.3	10.2	10.2	9.4	9.1
2/15	7.0	7.2	7.3	9.8	9.6	9.0	9.1
2/16	7.1	7.4	7.4	10.3	10.0	9.0	9.2
2/17	7.2	7.3	7.2	9.8	9.6	9.0	9.1
2/18	7.0	7.1	7.2	9.5	9.4	8.9	9.0
2/19	7.3	7.3	7.3	9.8	9.7	9.2	9.2
2/20	7.3	7.3	7.4	10.2	10.0	9.3	9.1
2/21	7.0	7.1	7.1	9.6	9.5	8.9	9.2

(continued)

TABLE 2 (continued)

Date 1977	1 Raw In	3 Raw Out GAC	5 Raw Out XE-340	7 H.T. Effl. In	9 H.T. Effl. Out XE-340	11 Finish In	13 Finish Out XE-340
2/22	7.0	7.3	7.2	9.9	9.9	9.5	9.2
2/23	7.1	7.3	7.3	10.0	9.8	9.4	9.2
2/24	7.1	7.2	7.2	9.9	9.6	8.9	9.0
2/25	7.0	7.2	7.2	9.9	9.7	9.4	9.3
2/26	7.0	7.2	7.3	9.9	9.9	9.7	9.5
2/27	7.1	7.3	7.4	10.0	9.8	9.4	9.3
2/28	7.1	7.2	7.2	9.6	9.5	9.2	9.1
3/1	7.1	7.3	7.3	10.2	10.2	9.2	8.7
3/2	7.2	7.4	7.4	9.5	9.6	9.2	9.3
3/3	7.2	7.8	7.3	9.8	9.6	9.3	9.2
3/4	7.2	7.3	7.2	9.8	9.7	9.1	9.0
3/5	7.2	7.3	7.3	9.7	9.5	9.0	9.1
3/6	7.2	7.3	7.3	9.6	9.4	8.9	8.9
3/7	7.1	7.3	7.2	9.7	9.6	9.1	9.0
3/8	7.2	7.2	7.3	10.0	9.8	9.3	9.3
3/9	7.2	7.3	7.3	10.0	9.6	8.7	8.7
3/10	7.2	7.3	7.2	9.7	9.5	9.0	9.1
3/11	7.1	7.2	7.2	9.7	9.6	9.1	9.0
3/12	7.15	7.2	7.2	9.65	9.6	9.2	9.2
3/13	7.10	7.2	7.2	9.7	9.6	8.95	8.95
3/14	7.1	7.2	7.3	9.7	9.4	8.9	9.1
3/15	7.1	7.2	7.1	9.7	9.5	9.2	9.1
3/16	7.1	7.1	7.1	9.5	9.5	9.2	9.15
3/17	7.1	7.2	7.3	9.8	9.7	9.1	9.1
3/18	7.1	7.2	7.2	9.7	9.5	9.0	8.9
3/19	7.1	7.3	7.4	9.8	9.5	8.8	8.7
3/20	7.1	7.2	7.3	9.6	9.5	8.9	8.9
3/21	7.1	7.2	7.2	9.6	9.4	8.8	8.9
3/22	7.1	7.2	7.1	9.9	9.6	8.7	8.7
3/23	7.1	7.1	7.1	10.0	9.8	9.4	8.9
3/24	7.1	7.2	7.2	9.8	9.5	8.9	8.9
3/25	7.1	7.2	7.2	9.8	9.7	9.3	9.2
3/26	7.1	7.2	7.2	9.8	9.7	9.4	9.3
3/27	7.1	7.2	7.2	10.3	10.1	8.7	8.6
3/28	7.1	7.2	7.2	9.6	9.5	9.0	8.9

(continued)

TABLE 2 (continued)

Date 1977	1 Raw In	3 Raw Out GAC	5 Raw Out XE-340	7 H.T. Effl. In	9 H.T. Effl. Out XE-340	11 Finish In	13 Finish Out XE-340
3/29	7.1	7.2	7.2	10.2	9.9	9.4	9.3
3/30	7.1	7.2	7.2	10.0	9.8	9.2	9.1
3/31	7.2	7.2	7.3	10.0	9.8	9.3	9.3
4/1	7.1	7.2	7.2	9.8	9.6	8.7	8.6
4/2	7.1	7.2	7.2	9.5	9.3	8.8	8.8
4/3	7.1	7.2	7.2	10.0	9.9	9.5	9.5
4/4	7.1	7.2	7.2	10.1	9.8	9.3	9.3
4/5	7.1	7.2	7.2	10.3	10.1	9.4	9.2
4/6	7.1	7.2	7.2	10.1	10.0	9.4	9.3
4/7	7.1	7.3	7.2	9.9	9.6	8.8	8.8
4/8	7.1	7.2	7.2	9.7	9.9	9.3	9.3
4/9	7.2	7.2	7.2	9.6	9.4	8.8	8.9
4/10	7.2	7.25	9.3	9.8	9.7	9.5	9.5
4/11	7.2	7.3	7.3	10.3	10.2	9.3	9.2
4/12	7.2	7.3	7.3	9.7	9.6	9.2	9.2
4/13	7.2	7.3	7.3	9.8	9.5	9.0	8.9
4/14	7.2	7.3	7.3	9.9	9.7	9.7	9.65
4/15	7.1	7.3	7.3	9.6	9.5	9.1	9.1
4/16	7.2	7.3	7.3	9.5	9.7	9.1	9.0
4/17	7.2	7.3	7.3	9.7	9.4	8.5	8.1
4/18	7.2	7.3	7.3	9.9	9.7	9.1	8.9
4/19	7.1	7.2	7.3	9.7	9.6	9.1	9.2
4/20	7.1	7.3	7.3	9.7	9.6	9.4	9.4
4/21	7.2	7.3	7.3	9.4	9.1	8.6	8.8
4/22	7.15	7.2	7.2	10.0	9.7	9.3	9.5
4/23	7.2	7.2	7.2	9.5	9.3	8.9	9.0
4/24	7.2	7.2	7.3	10.1	9.8	9.2	9.1
4/25	7.2	7.3	7.3	7.4	9.2	8.8	8.8
4/26	7.2	7.2	7.3	9.9	9.8	9.4	9.3
4/27	7.2	7.4	7.3	9.6	9.4	9.1	9.0
4/28	7.2	7.3	7.3	9.7	9.5	9.2	9.1
4/29	7.2	7.3	7.3	9.8	9.6	9.2	9.0
4/30	7.2	7.3	7.3	9.9	9.6	9.2	9.2
5/1	7.2	7.3	7.3	9.8	9.6	9.3	9.3
5/2	7.2	7.4	7.3	9.3	9.3	9.2	9.1

(continued)

TABLE 2 (continued)

Date 1977	1 Raw In	3 Raw Out GAC	5 Raw Out XE-340	7 H.T.Effl. In	9 H.T. Effl. Out XE-340	11 Finish In	13 Finish Out XE-340
5/3	7.2	7.3	7.3	9.7	9.6	9.4	9.5
5/4	7.2	7.4	7.3	9.7	9.5	9.0	9.0
5/5	7.2	7.3	7.3	9.8	9.7	9.2	9.0
5/6	7.2	7.3	7.3	9.7	9.6	9.1	9.2
5/7	7.2	7.2	7.2	9.8	9.6	9.3	9.2
5/8	7.2	7.2	7.2	9.7	9.6	9.6	9.5
5/9	7.2	7.3	7.3	10.1	9.7	9.1	9.1
5/10	7.1	7.3	7.3	10.2	10.1	9.4	9.1
5/11	7.2	7.3	7.3	9.8	9.6	9.3	9.0
5/12	7.2	7.3	7.4	10.0	9.7	8.8	8.9
5/13	7.2	7.3	7.3	9.8	9.7	9.3	9.3
5/14	7.2	7.3	7.4	9.9	9.6	9.3	9.2
5/15	7.2	7.4	7.4	9.9	9.7	9.5	9.3
5/16	7.2	7.3	7.3	10.2	9.6	8.9	8.9
5/17	7.2	7.3	7.2	10.0	9.8	9.0	8.8
5/18	7.2	7.3	7.3	10.3	10.0	9.0	9.3
5/19	7.2	7.3	7.3	9.8	9.6	9.3	9.3
5/20	7.2	7.2	7.3	9.4	9.8	9.4	9.2
5/21	7.2	7.3	7.3	9.6	9.5	9.1	9.2
5/23	7.2	7.3	7.3	10.8	10.4	8.8	9.0

TABLE 3 pH DATA, SIX DAY SAMPLES (EDIR)

Date Samples 1977	Date Run 1977	2 Raw In	4 Raw Out GAC	6 Raw Out XE-340	8 H.T. Effl. In	10 H.T. Effl. Out XE-340	12 Finish In	14 Finish Out XE-340
1/18	1/24	6.7	6.8	6.8	9.7	9.6	9.1	8.6
1/21	1/27	6.7	6.8	6.8	9.6	9.7	9.4	9.4
1/25	1/31	7.2	7.1	7.2	10.1	off	9.6	9.5
1/28	2/3	7.2	7.2	7.2	9.5	9.5	8.9	8.8
2/1	2/7	7.2	7.2	7.3	9.8	9.7	9.1	9.1
2/4	2/10	7.2	7.2	7.2	10.1	10.1	9.4	9.2
2/8	2/14	7/2	7.3	7.3	9.4	9.5	9.1	9.0
2/11	2/17	7.4	7.4	7.4	9.6	9.7	9.1	8.9
2/15	2/21	7.0	7.0	7.0	8.7	9.3	9.4	8.7
2/18	2/24	7.2	7.2	7.2	9.5	9.6	9.3	9.1
2/22	2/28	7.0	7.1	7.1	10.1	10.0	9.2	8.9
2/25	3/3	7.1	7.2	7.1	9.8	9.9	9.3	9.2
3/1	3/7	7.2	7.2	7.1	10.3	10.1	8.8	8.4
3/4	3/10	7.2	7.2	7.2	9.8	9.8	9.1	9.0
3/8	3/14	7.2	7.1	7.1	9.7	9.7	9.3	9.1
3/11	3/17	7.0	7.0	7.0	9.5	9.6	9.0	8.9
3/15	3/21	7.2	7.2	7.2	9.6	9.7	9.2	9.0
3/18	3/24	7.1	7.2	7.3	9.7	9.8	8.8	8.7
3/22	3/28	7.1	7.1	7.1	9.4	9.5	8.7	8.6
3/25	3/31	7.1	7.1	7.1	9.6	9.6	9.2	9.1
3/29	4/4	7.1	7.1	7.1	9.9	9.9	9.3	9.2
4/1	4/7	7.1	7.1	7.2	9.6	9.6	8.5	8.2
4/5	4/11	7.1	7.2	7.2	10.1	10.2	9.2	9.1
4/12	4/18	7.0	7.1	7.1	9.5	9.6	9.0	8.9
4/22	4/28	7.2	7.2	7.2	9.8	9.7	9.4	9.4
4/26	5/2	7.1	7.2	7.3	9.9	9,8	9.2	8.9
5/3	5/9	7.2	7.2	7.3	9.6	9.7	9.4	9.4
5/6	5/12	7.2	7.2	7.2	10.2	9.5	9.2	9.0
5/10	5/16	7.2	7.2	7.2	9.6	10.2	9.0	8.8
5/13	5/19	7.2	7.2	7.2	9.7	9.7	9.3	9.2
5/17	5/23	7.2	7.3	7.2	9.8	9.6	8.7	8.6
5/20	5/26	7.2	7.2	7.2	9.9	9.9	9.3	9.2

TABLE 4 TURBIDITY DATA (ED1R)

Date 1977	1 Raw In	3 Raw Out GAC	5 Raw Out XE-340	7 H.T. Effl. In	9 H.T. Effl. Out XE-340	11 Finish In	13 Finish Out XE-340
1/18	0.25	0.11	0.23	12	0.13	0.43	0.10
1/19	0.44	0.10	0.68	13	0.16	*0.78	0.45
1/20	0.71	0.12	1.7	15	0.19	1.2	0.37
1/21	0.35	0.15	2.2	13	0.17	0.44	0.13
1/22	0.36	0.22	0.95	off	off	*0.70	0.15
1/23	0.38	0.52	0.68	off	off	*1.3	0.14
1/24	0.31	0.97	0.60	off	off	*0.81	1.3
1/25	1.8	2.0	1.1	15	off	0.21	0.21
1/26	0.30	1.1	0.52	14	0.27	0.84	0.24
1/27	0.29	2.4	0.80	17	0.45	*1.3	0.20
1/28	1.4	3.8	2.8	16	0.23	*2.1	0.17
1/29	0.70	2.0	1.5	43	0.18	0.21	0.14
1/31	1.7	3.5	2.0	3.7	0.27	*1.1	0.23
2/1	1.3	0.48	0.47	4.0	0.22	0.50	0.12
2/2	0.57	1.5	1.0	27	0.46	0.24	0.12
2/3	0.30	1.8	0.83	12	0.91	0.54	0.30
2/4	0.27	1.5	0.97	9.2	0.85	0.28	0.13
2/5	0.37	0.82	0.58	7.2	0.63	0.62	0.25
2/6	0.35	0.80	0.87	10	0.41	0.13	0.22
2/7	0.27	2.7	2.0	7.3	0.36	0.14	0.19
2/8	0.41	3.2	1.8	9.2	0.30	0.39	0.12
2/9	0.60	2.3	2.2	13	0.20	0.25	0.18
2/10	0.26	1.5	1.0	9.6	0.24	0.13	0.12
2/11	0.33	1.8	1.4	13	0.18	0.15	0.10
2/12	0.40	1.8	1.6	14	0.19	0.45	0.22
2/13	0.43	2.4	1.7	3.1	0.19	0.31	0.21
2/14	1.6	3.1	2.1	3.5	0.17	0.11	0.20
2/15	0.33	0.70	0.92	4.1	0.22	0.34	0.11
2/16	0.96	2.3	1.5	10	0.20	0.26	0.12
2/17	0.40	0.78	0.63	17	0.21	0.43	0.23
2/18	0.58	1.2	0.93	7.7	0.17	0.10	0.15
2/19	1.6	2.1	2.0	2.0	0.18	0.12	0.09
2/20	1.2	2.0	1.9	3.6	0.17	0.25	0.10

*Air bubbles in sample

(Continued)

TABLE 4 (continued)

Date 1977	1 Raw In	3 Raw Out GAC	5 Raw Out XE-340	7 H.T. Effl. In	9 H.T. Effl. Out XE-340	11 Finish In	13 Finish Out XE-340
2/21	1.0	2.5	1.8	8.3	0.21	0.67	0.29
2/22	0.35	1.4	1.0	17	0.17	0.12	0.18
2/23	0.30	1.8	1.6	7.7	0.20	0.28	0.16
2/24	0.42	1.5	1.2	7.8	0.20	0.42	0.15
2/25	0.31	1.2	1.1	10	0.20	0.37	0.14
2/26	0.38	0.98	0.96	7.6	0.23	0.12	0.17
2/27	0.35	1.0	1.2	8.3	0.23	0.11	0.11
2/28	0.45	2.0	1.9	10.2	0.23	0.35	0.11
3/1	0.34	1.2	1.1	8.4	0.26	0.32	0.16
3/2	0.30	1.2	1.3	25	0.85	0.13	0.18
3/3	0.39	1.3	0.95	7.9	0.28	0.23	0.14
3/4	0.35	1.4	1.3	5.4	0.22	0.28	0.15
3/5	0.30	1.1	1.1	8.3	0.28	0.17	0.13
3/6	0.38	1.2	1.0	7.9	0.28	0.18	0.12
3/7	0.54	1.8	1.8	9.0	0.24	0.44	0.16
3/8	0.36	1.1	.96	4.0	0.19	0.35	0.12
3/9	0.32	1.8	1.7	19	0.21	0.24	0.12
3/10	0.37	1.3	1.0	4.7	0.24	0.14	0.12
3/11	0.35	1.6	1.2	8.5	0.23	0.29	0.13
3/12	0.41	1.5	1.2	2.8	0.19	0.45	0.14
3/13	0.75	2.1	2.4	2.7	0.20	0.46	0.16
3/14	0.43	1.8	1.6	7.0	0.23	0.18	0.14
3/15	0.48	1.2	1.2	2.7	0.22	0.36	0.13
3/16	0.74	2.1	1.4	2.5	0.19	0.38	0.21
3/17	0.47	1.6	1.2	3.0	0.24	0.57	0.24
3/18	0.48	1.3	1.3	8.5	0.22	0.30	0.17
3/19	0.75	1.8	1.6	31.0	0.37	0.23	0.22
3/20	0.44	1.3	1.3	4.6	0.32	0.23	0.18
3/21	0.54	1.7	1.6	2.9	0.23	0.31	0.21
3/22	0.60	1.0	1.0	7.5	0.21	0.17	0.12
3/23	0.42	.87	0.55	9.8	0.22	0.26	0.14
3/24	0.91	1.7	1.7	9.4	0.18	0.35	0.16
3/25	0.62	1.7	1.0	10.0	0.20	0.23	0.14
3/26	0.75	1.5	1.5	5.0	0.19	2.8	0.14

(continued)

TABLE 4 (continued)

Date 1977	1 Raw In	3 Raw Out GAC	5 Raw Out XE-340	7 H.T. Effl. In	9 H.T. Effl. Out XE-340	11 Finish In	13 Finish Out XE-340
3/27	0.46	1.2	1.1	4.8	0.20	0.15	0.12
3/28	0.34	1.6	1.5	8.6	0.23	0.32	0.15
3/29	0.30	1.5	1.4	9.8	0.04	0.10	
3/30	0.84	1.4	1.2	10	0.23	0.18	0.13
3/31	0.53	0.92	.88	8.6	0.20	0.35	0.18
4/1	0.80	2.0	1.9	8.8	0.29	0.24	0.14
4/2	1.3	1.8	1.5	26	0.22	0.31	0.12
4/3	.97	1.7	1.2	4.4	0.24	0.14	0.16
4/4	0.75	1.3	1.2	7.9	0.21	0.21	0.15
4/5	0.49	1.3	1.1	9.9	0.20	0.23	0.13
4/6	0.93	1.5	1.5	15	0.22	0.18	0.13
4/7	0.27	1.3	1.1	9.6	0.20	0.18	0.26
4/8	1.1	1.6	1.2	16	0.30	0.30	0.22
4/9	1.0	1.3	1.3	7.2	0.21	0.62	0.25
4/10	0.29	1.6	1.6	2.4	0.20	0.42	0.25
4/11	1.2	1.8	1.8	22	0.19	0.15	0.15
4/12	0.75	1.2	1.2	15	0.21	0.26	0.12
4/13	0.38	1.4	0.95	15	0.21	0.75	0.21
4/14	0.57	0.95	0.80	4.5	0.20	0.32	0.11
4/15	1.0	1.5	1.2	16	0.22	0.22	0.16
4/16	0.53	0.74	0.59	16	0.20	0.23	0.22
4/17	0.96	1.2	1.1	16	0.36	0.30	1.2
4/18	1.0	1.6	1.5	10	0.29	0.37	0.32
4/19	1.5	2.0	1.8	8.2	0.21	0.20	0.12
4/20	1.3	1.9	1.7	9.2	0.23	0.26	0.11
4/21	0.54	1.8	1.7	9.6	0.27	0.57	0.14
4/22	0.79	0.75	.95	11	0.18	0.35	0.11
4/23	0.67	1.5	1.7	4.5	0.16	0.10	0.09
4/24	0.29	1.4	0.8	3.5	0.17	0.15	0.11
4/25	0.28	1.7	1.5	3.1	0.17	0.40	0.32
4/26	0.82	1.1	1.1	9.5	0.23	0.18	0.12
4/27	0.28	1.2	1.2	7.7	0.19	0.22	0.12
4/28	0.29	1.7	1.6	9.3	0.22	0.40	0.16
4/29	0.28	1.3	1.4	6.7	0.20	0.60	0.12
4/30	0.58	1.3	1.3	9.1	0.26	0.69	3.7

(continued)

TABLE 4 (continued)

Date 1977	1 Raw In	3 Raw Out GAC	5 Raw Out XE-340	7 H.T. Effl. In	9 H.T. Effl. Out XE-340	11 Finish In	13 Finish Out XE-340
5/1	.36	0.97	0.93	5.4	0.26	0.16	1.8
5/2	0.51	1.2	1.1	6.7	0.39	0.22	0.21
5/3	0.30	1.2	1.1	9.8	0.24	0.23	0.15
5/4	0.63	1.3	1.5	20.3	0.38	0.28	0.11
5/5	.36	0.51	0.51	17	0.25	0.22	0.13
5/6	0.42	1.1	0.85	17	0.22	0.54	0.16
5/7	0.31	1.1	0.94	3.2	0.20	0.66	0.10
5/8	0.30	1.6	1.2	2.9	0.19	0.37	0.10
5/9	0.36	0.67	0.82	10	0.20	0.93	0.17
5/10	0.33	0.97	0.89	10	0.18	0.38	0.11
5/11	0.31	1.1	0.80	17	0.18	0.82	0.18
5/12	0.29	0.61	0.67	7.5	0.23	0.85	0.15
5/13	0.28	1.7	1.2	8.0	0.19	0.57	0.13
5/14	0.36	1.2	1.2	9.5	0.22	0.65	0.15
5/15	0.33	0.56	0.45	9.5	0.57	1.5	0.26
5/16	0.47	1.4	1.4	7.3	0.24	1.6	1.6
5/17	1.5	2.4	2.2	4.2	0.20	0.15	0.13
5/18	0.68	1.6	1.6	7.3	0.18	0.42	0.13
5/19	0.41	1.5	1.5	1.7	0.23	0.72	0.13
5/20	0.47	2.6	2.4	6.9	0.20	0.72	0.14
5/21	0.97	1.8	1.5	2.3	0.17	0.35	0.08
5/22	0.33	0.78	0.76	3.7	0.21	0.46	0.10

TABLE 5 TURBIDITY DATA, SIX DAY SAMPLES (ED1R)

Date Sampled 1977	Date Run 1977	2 Raw In	4 Raw Out GAC	6 Raw Out XE-340	8 H.T. Effl. In	10 H.T. Effl. Out Xe-340	12 Finish In	14 Finish Out XE-340
1/18	1/24	1.6	0.21	0.22	1.1	0.17	0.13	0.20
1/21	1/27	1.2	0.16	1.3	0.33	0.15	0.13	0.11
1/25	1/31	1.7	1.7	1.6	0.27	off	0.15	0.14
1/28	2/3	1.0	2.4	1.7	0.44	0.23	0.61	0.16
2/1	2/7	1.5	1.4	1.2	0.34	0.20	0.22	0.13
2/4	2/10	1.1	1.7	1.3	0.42	0.20	0.17	0.11
2/8	2/14	1.7	1.5	1.5	0.45	0.20	0.14	0.12
2/11	2/17	1.2	1.1	1.2	0.32	0.17	0.11	0.11
2/15	2/21	1.2	1.1	1.5	2.1	0.22	9.4	0.15
2/18	2/24	1.2	0.83	1.2	0.31	0.18	0.10	0.13
2/22	2/28	1.0	1.2	1.4	0.50	0.16	0.40	0.15
2/25	3/3	1.5	2.0	1.7	1.4	0.16	0.23	0.11
3/1	3/7	1.0	0.93	1.2	2.4	0.19	0.28	0.12
3/4	3/10	1.3	1.9	1.7	22	0.18	0.68	0.11
3/8	3/14	1.7	2.2	1.7	1.1	0.17	0.15	0.17
3/11	3/17	1.0	1.8	1.9	1.8	0.18	0.28	0.15
3/15	3/21	1.4	2.4	2.2	1.1	0.18	0.32	0.14
3/18	3/24	0.55	1.3	2.0	1.1	0.18	0.35	0.14
3/22	3/28	0.50	2.0	2.1	0.87	0.18	0.18	0.15
3/25	3/31	1.1	1.2	2.4	4.8	0.18	0.20	0.14
3/29	4/4	0.87	1.6	2.2	0.95	0.20	0.23	0.13
4/1	4/7	1.1	1.1	1.5	1.4	0.21	0.26	0.16
4/5	4/11	0.91	1.2	1.8	0.30	0.18	0.13	0.13
4/12	4/18	0.90	0.79	1.3	1.2	0.17	0.18	0.12
4/22	4/28	1.0	0.97	1.6	2.0	0.17	0.38	0.15
4/26	5/2	1.0	0.83	1.1	8.7	0.18	0.17	0.12
5/3	5/9	1.2	0.91	1.2	1.6	0.18	0.17	0.36
5/6	5/12	0.94	0.79	1.2	3.0	0.17	0.66	0.15
5/10	5/16	1.2	0.68	0.92	3.2	0.18	0.48	0.24
5/13	5/19	0.87	1.1	1.0	1.2	0.18	0.23	0.15
5/17	5/23	2.2	2.8	2.7	0.61	0.16	0.27	0.11
5/20	5/26	2.6	2.8	2.6	1.2	0.16	0.78	0.15

TABLE 6 CHLORINE RESIDUAL (ED1R)

Date	7 H.T. Effl. In		11 Finish In		13 Finish Out	
1977	Free	Total	Free	Total	Free	Total
1/18	0	0.20	2.8	4.5	0	0.20
1/19	0	0.05	2.2	3.2	0	0.40
1/20	0	0.05	2.6	3.5	0	0.30
1/21	0	0.05	3.6	3.6	0	0.50
1/22	off	off	2.5	4.0	0	0.40
1/23	off	off	2.6	4.3	0	0.50
1/24	off	off	2.5	3.9	0	0.30
1/25	0	0.10	2.6	3.9	0	0.70
1/26	0	0.10	2.3	3.3	0	0.50
1/27	0	0.40	2.1	3.0	0	0.40
1/28	0	0.05	1.5	2.3	0	0.40
1/29	0	0.40	1.8	2.7	0	0.50
1/31	0	0.20	1.8	2.7	0	0.40
2/1	0	0.20	1.6	2.3	0	0.40
2/2	0	0.20	2.2	2.9	0	0.50
2/3	0	0.05	1.8	2.6	0	0.40
2/4	0	0.10	2.2	3.5	0.20	0.60
2/5	0	0.25	1.5	2.3	0.05	0.50
2/6	0	0.05	1.4	2.1	0.05	0.45
2/7	0	0.15	1.8	2.4	0.05	0.45
2/8	0	0.20	2.4	3.0	0.10	0.30
2/9	0	0.10	9.9	2.45	0.15	0.35
2/10	0	0.05	2.25	3.1	0.15	0.60
2/11	0	0.05	2.0	2.95	0.15	0.60
2/12	0	0.05	2.7	3.8	0.35	0.80
2/13	0	0.10	2.6	3.55	0.20	0.55
2/14	0	0.05	2.95	4.20	0.20	0.60
2/15	0	0.10	2.15	2.80	0.10	0.50
2/16	0	0.10	2.30	2.85	0.10	0.60
2/17	0	0.05	2.15	2.75	0.10	0.60
2/18			2.20	2.95	0.20	0.70
2/19	0	0.20	2.60	3.40	0.25	0.70
2/20	0	0.10	2.80	4.20	0.30	0.75
2/21	0	0.05	2.10	2.90	0.10	0.40
2/22	0	0.10	2.50	4.00	0.45	0.85
2/23	0	0.10	3.30	4.15	0.65	1.2

(continued)

TABLE 6 (continued)

Date	7 H.T. Effl. In		11 Finish In		13 Finish Out	
	Free	Total	Free	Total	Free	Total
2/24	0	0.10	2.15	2.80	0.15	0.65
2/25	0	0.10	2.50	3.50	0.40	0.90
2/26	0	0.15	2.25	4.45	0.50	0.90
2/27	0	0.10	2.25	3.15	0.50	0.80
2/28	0	0.30	2.45	3.20	0.30	0.70
3/1	0	0.10	2.45	3.55	0.25	0.75
3/2	0	0.25	2.45	3.30	0.40	0.85
3/3	0	0.10	2.30	3.05	0.35	0.75
3/4	0	0.10	2.30	3.05	0.30	0.70
3/5	0	0.15	2.00	2.55	0.25	0.65
3/6	0	0.15	1.60	2.20	0.40	0.70
3/7	0	0.20	2.00	2.50	0.20	0.60
3/8	0	0.20	2.35	3.25	0.45	0.85
3/9	0	0.15	1.90	2.50	0.20	0.60
3/10	0	0.25	2.10	2.70	0.30	0.70
3/11	0	0.05	2.15	2.80	0.30	0.75
3/12	0	0.05	2.10	2.85	0.40	0.80
3/13	0	0.05	1.65	2.40	0.25	0.65
3/14	0	0.05	2.25	2.85	0.35	0.85
3/15	0	0.05	2.30	2.90	0.35	0.75
3/16	0	0.25	1.95	2.80	0.30	0.70
3/17	0	0.10	2.35	2.90	0.30	0.70
3/18	0	0.10	2.35	3.00	0.20	0.65
3/19	0	0.10	2.10	2.70	0.20	0.65
3/20	0	0.05	2.20	2.80	0.35	0.75
3/21	0	0.05	1.75	2.20	0.15	0.55
3/22	0	0.10	2.20	2.80	0.15	0.65
3/23	0	0.10	1.90	3.05	0.35	0.70
3/24	0	0.05	2.20	2.80	0.25	0.70
3/25	0	0.05	2.50	3.15	0.30	0.70
3/26	0	0.05	2.55	3.1	0.30	0.70
3/27	0	0.40	2.85	3.85	0.50	1.00
3/28	0	0.25	2.00	2.80	0.30	0.70
3/29	0	0.25	2.60	3.60	0.65	1.05
3/30	0	0.20	2.60	3.30	0.60	1.10
3/31	0		2.85	3.40	0.60	1.05

(continued)

TABLE 6 (continued)

Date	7 H.T. Effl. In		11 Finish In		13 Finish Out	
	Free	Total	Free	Total	Free	Total
4/1	0	0.05	3.00	3.60	0.50	1.00
4/2	0	0.20	1.90	2.40	0.20	0.70
4/3	0	0.15	2.75	3.75	0.60	1.00
4/4	0	0.15	2.55	3.55	0.65	1.00
4/5	0	0.15	2.95	4.25	0.65	1.15
4/6	0	0.15	2.75	3.60	0.45	0.85
4/7	0	0.05	2.65	3.25	0.55	1.00
4/8	0	0.05	2.75	3.55	0.50	0.95
4/9	0	0.05	2.90	3.50	0.70	1.15
4/10	0	0.10	2.70	3.60	0.60	1.00
4/11	0	0.15	2.05	3.20	0.30	0.70
4/12	0	0.15	2.35	3.10	0.50	1.00
4/13	0	0.15	2.10	2.70	0.50	0.80
4/14	0	0.10	2.70	4.80	0.55	1.10
4/15	0	0.10	2.25	3.00	0.45	0.80
4/16	0	0	2.45	3.10	0.50	1.00
4/17	0	0.05	2.10	2.70	0.20	0.55
4/18	0	0	2.50	3.15	0.65	1.10
4/19	0	0	2.30	3.00	0.40	0.85
4/20	0	0.10	2.70	3.65	0.80	1.25
4/21	0	0.05	2.60	3.20	0.35	0.85
4/22	0	0.05	3.35	3.95	0.80	1.25
4/23	0	0.05	2.55	2.95	0.60	1.00
4/24	0	0.10	2.50	3.55	0.60	1.10
4/25	0	0.25	1.80	2.40	0.50	1.00
4/26	0	0.15	2.85	4.00	0.80	1.25
4/27	0	0.15	2.70	3.35	0.65	1.10
4/28	0	0.05	2.75	3.45	0.60	1.10
4/29	0	0.15	2.45	3.30	0.55	1.05
4/30	0	0.10	2.10	3.10	0.60	1.00
5/1	0	0.05	2.25	3.10	0.70	1.15
5/2	0	0.10	2.40	3.15	0.65	1.05
5/3	0	0	3.15	3.65	0.90	1.35
5/4	0	0	3.30	3.95	0.70	1.20
5/5	0	0	3.15	4.05	0.75	1.25
5/6	0	0	3.20	3.95	0.80	1.35

(continued)

TABLE 6. (continued)

Date	7 H.T. Effl. In		11 Finish In		13 Finish Out	
1977	Free	Total	Free	Total	Free	Total
5/7	0	0	1.20	3.10	0.05	0.55
5/8	0	<0.05	2.75	3.55	0.75	1.15
5/9	0	0	2.80	3.50	0.65	1.05
5/10	0	0	3.30	4.50	1.20	1.50
5/11	0	0	2.85	3.80	0.95	1.50
5/12	0	0	3.40	4.15	0.90	1.30
5/13	0	<0.05	3.15	3.95	1.10	1.60
5/14	0	<0.05	2.05	2.95	0.50	0.95
5/15	0	<0.05	3.00	4.00	0.65	1.35
5/16	0	0	2.40	3.00	0.55	0.95
5/17	0	0.05	2.90	3.75	0.65	1.15
5/18	0	0.05	3.70	4.90	0.70	1.25
5.19	0	0.05	2.50	3.70	0.35	0.95
5/20	0	0.05	3.10	3.85	1.15	1.65
5/21	0	<0.05	2.50	3.15	0.50	1.05
5/23	0	<0.05	3.10	4.10	0.65	1.20

TABLE 7 CHLORINE RESIDUAL SIX DAY SAMPLED (ED1R)

CHLORINE RESIDUAL,
6-DAY SAMPLES

Date	8 H.T. Effl. In		12 Finish In		14 Finish Out		Date
Sampled	Free	Total	Free	Total	Free	Total	Tested
1/8	0	0	0	0.20	0	0.05	1/24
1/21	0	0.05	0	0.30	0	0.05	1/27
1/25	0	<0.05	0	0.20	0	0.05	1/31
1/28	0	0.05	0	0.15	0	0.10	2/3
2/1	0	0	0	0.15	0	0.05	2/7
2/4	0	<0.05	0	0.10	0	0.05	2/10
2/8	0	0	0	0.15	0	0.05	2/14
2/11	0	0	0	0.10	0	0.05	2/17
2/15	0	0	0	0.15	0	0.05	2/21
2/18	0	<0.05	0	0.15	0	0.05	2/24
2/22	0	<0.05	0	0.15	0	0.05	2/28
2/25	0	0	0	0.10	0	0.05	3/3
3/1	0	<0.05	0	0.10	0	0.05	3/7
3/4	0	<0.05	0	0.10	0	0.05	3/10
3/8	0	<0.05	0	0.10	0	0.05	3/14
3/11	0	0.05	0	0.15	0	0.10	3/17
3/15	0	<0.05	0	0.10	0	0.05	3/21
3/18	0	<0.05	0	0.10	0	0.05	3/24
3/22	0	<0.05	0	0.10	0	0.05	3/28
3/25	0	0	0	0.05	0	0.05	3/31
3/29	0	<0.05	0	0.10	0	0.05	4/4
4/1	0	0	0	0.10	0	0.05	4/7
4/5	0	<0.05	0	0.10	0	0.05	4/11
4/12	0	<0.05	0	0.10	0	0.05	4/18
4/22	0	<0.05	0	0.15	0	0.05	4/28
4/26	0	<0.05	0	0.10	0	0.05	5/2
5/3	0	0	0	0.10	0	0.05	5/9
5/6	0	<0.05	0	0.30	0	0.05	5/12
5/10	0	0	0	0.10	0	0.05	5/16
5/13	0	0	0	0.15	0	0.10	5/19
5/17	0	<0.05	0	0.15	0	0.05	5/23
5/20	0	0.05	0	0.20	0	0.10	5/26

TABLE 8 COLOR DATA IN PLATINUM-COBALT UNITS (ED1R)

COLOR DATA IN PLATINUM-COBALT UNITS

	Initial							Six Days Later						
	Raw In	Raw Out GAC	Raw Out XE-340	H.T. Effl. In	H.T.Effl. Out XE-340	Finish In	Finish Out XE-340	Raw In	Raw Out GAC	Raw Out XE-340	H.T.Effl. In	H.T.Effl. Out XE-340	Finish In	Finish Out
Date	1	3	5	7	9	11	13	2	4	6	8	10	12	14
1/18	46	2	16	30	11	5	4	39	3	13	8	6	2	2
1/21	35	8	54	22	5	2	3	39	5	37	12	9	2	2
1/25	54	24	35	12	off	3	4	48	22	32	15	off	3	3
1/28	61	44	65	17	15	8	4	27	25	44	15	12	3	4
2/1	65	15	21	17	3	6	3	51	24	30	15	14	4	5
2/4	37	52	52	25	12	8	3	31	26	35	16	11	3	4
2/8	37	45	55	6	5	3	2	50	30	50	10	10	10	5
2/11	40	40	40	10	5	5	5	43	19	38	15	10	8	3
2/15	45	38	50	14	10	3	3	42	31	51	8	3	8	3
2/18	50	50	52	15	12	3	3	47	38	46	19	14	4	6
2/22	34	44	47	6	5	3	3	35	30	43	22	11	4	5
2/25	43	52	58	15	12	5	3	54	46	57	11	9	2	3
3/1	46	55	61	17	15	5	5	30	33	34	14	15	5	5
3/4	44	51	57	16	15	5	6	46	46	50	18	12	4	6
3/8	44	49	48	12	12	6	4	57	54	55	14	12	5	6
3/11	39	53	54	15	11	3	3	40	40	50	14	14	5	4
3/15	45	54	57	16	15	5	4	43	48	54	11	9	3	4
3/18	45	51	57	14	14	4	5	37	31	48	10	12	4	5
3/22	46	47	51	14	15	4	4	35	52	55	12	11	3	4
3/25	46	52	55	12	11	3	4	45	37	52	14	12	5	5
3/29	37	51	55	14	12	3	3	46	32	52	15	9	3	3
4/1	47	55	60	12	12	3	4	42	38	52	11	11	4	4
4/5	44	50	54	14	11	3	3	46	31	51	18	12	4	5
4/8	No	Sample												
4/12	47	48	50	12	12	8	3	37	32	33	9	10	2	3
4/22	50	43	48	17	14	4	3	43	43	50	14	14	4	5
4/26	54	57	58	15	14	3	4	37	35	34	11	11	2	4
5/3	39	54	55	14	12	3	3	38	29	36	12	12	3	3
5/6	44	60	48	17	14	5	3	44	34	32	16	14	4	5
5/10	37	54	55	16	15	5	4	42	34	42	15	14	6	6
5/13	34	55	57	14	12	3	3	44	26	34	14	14	4	5
5/17	58	61	60	14	14	4	3	44	50	57	14	12	3	5
5/20	38	60	60	15	15	3	3	54	54	57	11	12	4	5

TABLE 9 SIX-DAY BUFFERED AND CHLORINATED SAMPLES (ED1R)

Six-Day Aged, Spiked Samples		Six-Day Buffered and Chlorinated Samples — DPD TITRATION -- FREE AND TOTAL Chlorine Residual															
Date Sample	Date Tested	2 Raw In		4 Raw G.A.C.		6 Raw XE-340		8 H.T. In		10 H.T. XE-340		12 Finish In		14 Finish XE-340		Extra 2 x 2	
77	77	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total
1/18	1/24	1.8	7.2	13.8	16.8	0	1.3	5.4	10.2	9.0	13.8	7.8	11.4	10.4	14.6	35.4	40.8
														2x4	→	71.4	75.0
1/21	1/27	27	30	21.6	25.8	25.8	28.2	28.8	32.4	25.8	29.4	31.8	34.8	28.8	32.4	63.6	68.4
										2x½	→	6.0	9.0	2x4	→	123	136
1/25	1/31	13.2	15.6	15.0	18.0	11.4	14.4	11.4	14.4	off	off	18.6	22.2	16.8	19.8	28.2	35.4
										2x½	→	1.2	5.6				
1/28	2/3	0	12.6	12.6	16.2	3.0	8.4	0	8.4	0	8.4	6.6	10.8	0	7.8		
2/1	2/7	3.6	7.8	6.6	9.0	6.6	9.6	0	4.2	0.6	6.6	0.6	7.8	1.8	6.0	12.6	15.6
										2x½	→	0	6.0				
2/4	2/10	5.4	11.4	3.9	9.9	6.2	8.7	1.8	10.8	1.5	9.0	1.5	11.1	2.7	11.7	0	20.7
														2x4	→	0	37.2
2/8	2/14	18.3	20.7	13.2	15.6	12.0	13.8	7.2	13.5	3.9	14.1	14.1	17.7	9.9	12.3	51.0	56
														2x4	→	92	99
2/11	2/17	12.6	13.8	15.9	17.4	2.4	7.5	5.1	11.4	6.0	16.8	4.5	11.7	3.9	9.0	36.3	39.3
														2x4	→	61.8	64.2
2/15	2/21	17.7	19.7	12.9	15.3	11.7	13.2	12.3	14.4	13.8	16.8	15.0	18.0	12.6	19.8	39.9	42.6
														2x4	→	59.5	61.9
2/18	2/24	17.1	19.2	12.9	15.0	23.4	25.5	7.5	14.1	11.1	17.4	14.7	21.0	17.7	20.4		
2/22	2/28	5.1	7.5	4.8	6.9	5.7	7.5	3.6	7.5	3.9	8.4	4.8	10.2	6.3	11.1		
2/25	3/3	20.1	21.6	20.4	22.5	14.7	16.2	7.8	13.8	7.8	13.8	6.6	12.3	7.5	13.8	initial	
3/1	3/7	16.5	17.7	7.5	9.0	8.1	9.6	0.3	10.5	4.2	10.8	3.3	10.5	6.6	12.9	Cl_2	feed
3/4	3/10	7.8	9.6	4.8	6.0	3.0	5.4	4.8	8.7	0.3	7.2	6.9	11.7	5.4	10.2	40	ppm
3/8	3/14	5.4	7.2	7.5	9.6	5.4	7.5	3.6	8.7	4.5	9.0	6.0	11.1	4.8	10.5	40	ppm
3/11	3/17	6.6	8.7	10.2	12.6	14.1	15.9	0	8.4	17.1	18.3	13.5	16.2	21.6	23.1	45	ppm
3/15	3/21	9.3	11.4	9.6	11.1	9.9	11.4	7.8	11.4	7.5	11.7	2.7	10.8	10.8	14.1	45	ppm
3/22	3/28	12.6	14.4	13.8	15.6	11.1	12.6	0.6	9.3	4.5	9.3	9.6	13.8	4.2	11.4	45	ppm
3/25	3/31	10.8	12	9.6	10.8	9.3	10.8	4.8	9.6	5.1	9.6	2.4	11.1	9.9	14.1	45	ppm
*3/29	4/4	17.4	18.6	17.7	18.6	17.1	18.3	20.1	21.3	21.3	22.8	25.8	27.0	25.2	26.4		
4/1	4/7	8.7	10.5	9.0	10.2	8.4		6.9	9.9	3.0	9.9	1.5	9.9	6.6	13.8		
4/5	4/11	13.2	15.3	14.1	15.9	12.9	14.4	16.8	18.6	22.5	24.3	27.6	29.4	26.7	28.5		
4/12	4/18	9.6	11.4	12.6	14.4	10.8	12.3	10.8	13.8	9.9	13.2	12.3	14.7	19.8	21.3		
4/25	5/2	9.3	10.8	12.0	13.2	11.7	12.6	16.8	18.3	13.8	15.0	18.6	19.8	18.3	19.8		

(continued)

TABLE 9 (continued)

Six-Day Aged, Spiked Samples

Six-Day Buffered and Chlorinated Samples

DPD TITRATION -- FREE AND TOTAL Chlorine Residual

Date Sample	Date Tested	2 Raw In		4 Raw GAC		6 Raw XE-340		8 H.T. In		10 H.T. XE-340		12 Finish In		14 Finish XE-340			
77	77	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total
4/22	4/28	15.6	16.5	16.2	17.1	16.2	17.1	20.4	21.9	21.0	22.2	27.0	27.9	23.1	24.3		
5/3	5/9	9.30	10.50	7.50	9.30	7.20	9.00	11.40	13.20	17.40	18.30	15.90	17.70	18.30	19.80		
5/6	5/12	3.3	7.2	4.8	6.9	6.3	8.1	6.0	10.5	7.8	10.8	9.9	12.6	8.4	11.7		
5/10	5/23	Power off--no samples run.															
5/13	5/19	5.70	8.10	6.30	8.10	6.90	8.40	8.70	11.40	6.0	9.9	10.2	12.6	10.5	12.6		
5/17	5/23	11.1	12.9	11.4	14.4	12.3	14.1	16.5	18.3	16.2	18.0	20.7	21.9	20.7	21.9		
5/20	5/26	2.10	2.40	2.40	2.80	2.80	3.05	2.70	3.05	2.80	3.15	3.65	3.90	3.55	3.88		

TABLE 10 SIX-DAY BUFFERED AND CHLORINATED SAMPLES (ED1R)

Six-Day Aged, Spiked Samples

SIX-DAY BUFFERED AND CHLORINATED SAMPLES

pH

Sample Date	Test Date	2 Raw In	4 Raw GAC	6 Raw XE-340	8 H.T. Effl. In	10 H.T. Effl XE-340	12 Finish In	14 Finish XE-340	2 x ½	2x2	2x4
1/18	1/24	8.8	8.4	8.8	8.8	8.70	8.7	8.7		8.9	9.0
1/21	1/27	9.0	9.2	9.0	8.8	9.1	9.0	9.2	9.0	9.0	8.8
1/25	1/31	9.1	9.1	9.1	9.2	off	9.2	9.2	9.0	9.2	
1/28	2/3	9.0	9.2	9.1	9.0	9.0	9.0	9.0			
2/1	2/7	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	
2/4	2.10	8.9	8.9	8.9	8.9	8.9	8.8	8.9		9.0	9.1
2/8	2/14	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.1	9.1
2/11	2/17	9.0	9.0	8.8	9.0		9.0	9.0		8.8	8.5
2/15	2/21	8.9	8.9	8.9	8.9	8.9	8.9	8.9		8.9	8.8
2/18	2/24	9.1	9.1	9.1	9.1	9.0	9.0	9.0			
2/22	2/28	9.1	9.1	9.1	9.1	9.1	9.1	9.1			
2/25	3/3	9.1	9.05	9.05	9.1	9.05	9.05	9.05			
3/1	3/7	9.1	9.1	9.05	9.1	9.1	9.1	9.1			
3/4	3/10	9.15	9.15	9.15	9.18	9.18	9.15	9.15			
3/8	3/14	9.05	9.05	9.05	9.05	9.10	9.05	9.05			
3/11	3/17	9.05	9.05	9.05	9.05	9.05	9.05	9.05			
3/15	3/21	9.05	9.05	9.05	9.10	9.10	9.10	9.10			
3/22	3/28	9.0	9.0	9.0	9.0	9.0	9.0	9.0			
3/25	3/31	9.1	9.05	9.05	9.18	9.18	9.15	9.15			

(continued)

TABLE 10 (continued)

Six-Day Aged, Spiked Samples

SIX-DAY BUFFERED AND CHLORINATED SAMPLES

pH

Sample Date	Test Date	2 Raw In	4 Raw GAC	6 Raw XE-340	8 H.T. Effl. In	10 H.T. Effl. XE-340	12 Finish In	14 Finish XE-340	2 x ½	2x2	2x4
3/28	4/4	9.05	9.05	9.05	9.10	9.10	9.10	9.10			
4/1	4/7	9.10	9.10	9.10	9.15	9.15	9.15	9.10			
4/5	4/11	9.05	9.05	9.05	9.10	9.05	9.05	9.05			
4/12	4/18	9.1	9.1	9.1	9.1	9.1	9.1	9.1			
4/22	4/28	9.11	9.11	9.11	9.15	9.15	9.15	9.15			
4/26	5/2	9.10	9.15	9.10	9.15	9.15	9.17	9.17			
5/3	5/9	9.05	9.10	9.10	9.13	9.13	9.13	9.13			
5/6	5/12	9.10	9.10	9.10	9.15	9.15	9.13	9.15			
5/10	5/16	Power off - no samples run									
5/13	5/19	Power off - no samples run									
5/17	5/23	9.00	9.05	9.05	9.10	9.10	9.10	9.10			
5/20	5/26	9.05	9.05	9.05	9.08	9.08	9.08	9.08			

TABLE 11 MISCELLANEOUS DATA (ED1R)

MISCELLANEOUS DATA March 29, 1977

FIVE SAMPLE POINTS IN DISTRIBUTION SYSTEMS

Location	Chlorine Res. Free ppm	Chlorine Res. Total ppm	pH	Turbid NTU	Chloride ppm	Chloroform µg/l
Preston Plant	2.7	3.1	9.4	0.24	74	81
1. Hialeah Plant	2.9	3.3	9.3	0.25	89	94
2. Miami Lakes	0.2	0.9	8.8	0.18	72	134
3. 76th Street Tank	0.4	1.8	8.9	0.32	81	96
4. Miami Beach 71st St. & Harding	0.8	1.8	8.3	0.22	84	133
5. Bay Point	0.3	1.1	8.9	0.20	81	117

Remarks:

1. It appears that the water in the Miami Lakes area is from the Preston Plant--note chlorides.

2. The water at Bay Point, Miami Beach and 76th Street tank appears to be a mixture of the Hialeah & Preston Plants. It appears to be about 50-50--again note chlorides.

3. The water in Miami Beach has been re-chlorinated, therefore, it would be higher in chlorides and lower in pH. The Chlorine feed is 1.0 ppm.

4. The reasons for picking the above sampling points are:

   A. Hialeah Plant--because the water in our distribution system is a mixture of the two plants--Preston and Hialeah.

   B. Miami Lakes--because it not only is furthest from the plants, but also there is not a heavy demand so the water here should be older than most anywhere else in the system.

   C. The 76th Street Tank--because there are already data on TTHMs (AWWA 14 cities study) at this point and it is a good sample point for the water going to Miami Beach before chlorination.

   D. Miami Beach--because it is not only a long way from the plant, but is also rechlorinated.

   E. Bay Point--same as Miami Lakes, but it is not as far.

(continued)

TABLE 11 (continued)

MISCELLANEOUS DATA April 7, 1977

FIVE SAMPLE POINTS IN DISTRIBUTION

The chlorine residuals and chloroform levels after seven days of aging.

LOCATION	Chlorine Res. free ppm	Chlorine Res. total ppm	Chloroform µg/l
1. Hialeah Plant	0	0.10	164
2. Miami Lakes	0	0.10	116
3. 76th Street Tank	0	0.10	123
4. Miami Beach	0	0.15	124
5. Bay Point	0	0.10	96

TABLE 12 SUMMARY OF PREVIOUS TABLES

SUMMARY OF ROUTINE DATA

TURBIDITY in NTU's Sample	Sample No.	INITIAL max.	min.	ave.	Sample No.	SIX DAY AGED max.	min.	ave.
Raw in	1	1.8	0.25	0.59	2	2.6	0.50	1.23
Raw thru GAC	3	3.2	0.10	1.4	4	2.8	0.16	1.40
Raw thru XE-340	5	2.4	0.23	1.3	6	2.7	0.22	1.6
H.T. Effl.	7	43	2.0	9.8	8	8.7	0.27	1.5
H.T. Effl. thru XE-340	9	0.91	0.13	0.25	10	0.23	0.15	0.18
Finished	11	2.8	0.10	0.43	12	9.4	0.10	0.57
Finished thru XE-340	13	3.7	0.08	0.27	14	0.36	0.11	0.15
pH								
same as above	1	7.3	6.7	7.1	2	7.4	6.7	7.1
	3	7.5	6.8	7.2	4	7.4	6.8	7.2
	5	7.5	6.8	7.2	6	7.4	6.8	7.2
	7	10.8	9.4	9.7	8	10.3	8.7	9.7
	9	10.2	9.1	9.7	10	10.2	9.3	9.7
	11	9.7	8.5	9.2	12	9.6	8.5	9.1
	13	9.7	8.1	9.1	14	9.5	8.2	9.0

FREE AND TOTAL CHLORINE RESIDUALS

Sample		Sample No.	max.	min.	ave.	Sample No.	max.	min.	ave.
H.T. Effl.	free	7	0	0	0	8	0	0	0
	total	7	0.40	0	0.10	8	0.05	0	0
Finished	free	11	3.4	1.2	2.5	12	0	0	0
	total	11	4.9	2.1	3.3	12	0.30	0.05	0.14
Finished thru XE-340	free	13	1.2	0	0.42	14	0	0	0
	Total	13	1.6	0.20	0.64	14	0.10	0.05	0.06

(continued)

TABLE 12 (continued)

SUMMARY OF ROUTINE DATA

COLOR as PCU	INITIAL				SIX-DAY AGED			
Sample	Sample no.	max.	min.	ave.	Sample no.	max.	min.	ave.
Raw	1	65	34	45	2	57	27	42
Raw thru' GAC	3	61	2	46	4	54	3	33
Raw thru' XE-340	5	65	16	51	6	55	13	42
H.T. Effl.	7	30	6	18	8	22	3	13
H.T. Effl. thru' XE-340	9	15	3	12	10	15	3	11
Finished	11	8	2	4	12	10	2	4
Finished thru' XE-340	13	6	2	4	14	6	2	4

(continued)

TABLE 12 (continued)

SUMMARY OF THE CHLORINE RESIDUALS AND pH DATA ON THE SIX-DAY AGED, SPIKED SAMPLES.

SAMPLE		CHLORINE RESIDUAL (ppm)						pH		
		FREE			TOTAL					
No.	SAMPLE	max.	min.	ave.	max.	min.	ave.	max.	min.	ave.
2	Raw	27.0	0	10.5	30.0	2.4	23.6	9.15	8.8	9.04
4	Raw thru' GAC	20.4	2.40	11.0	25.8	2.8	12.9	9.2	8.4	9.04
6	Raw thru' XE-340	25.8	0	9.88	28.2	1.8	11.9	9.15	8.8	9.0
8	H.T. Effl.	28.8	0	8.04	32.4	3.05	12.7	9.2	8.8	9.06
10	H.T. Effl. thru' XE-340	25.8	0	9.25	29.4	2.28	13.0	9.18	8.7	9.04
12	Finished	31.8	0	11.5	34.8	3.9	15.7	9.2	8.7	9.05
14	Finished thru' XE-340	28.8	0	12.3	32.4	6.0	15.7	9.2	8.7	9.06
2x½	Raw $\bar{c}$ ½Cl_2 as sample 2	6	0	2.4	9	5.6	6.9	9.0	8.9	8.96
2x2	Raw $\bar{c}$ 2xCl_2 as sample 2	63.6	0	33.4	68.4	15.6	39.8	9.2	8.8	8.98
2x4	Raw $\bar{c}$ 4xCl_2 as sample 2	123	0	68	136	37.2	79	9.1	8.5	8.88

TABLE 13 RAINFALL DATA (PRIOR TO ED1R)

DEC.	IN.	JAN.	IN.						
8	tr.	8	0						
9	0	9	0						
10	0	10	tr.						
11	tr.	11	0						
12	0	12	0						
13	0	13	0						
14	.08	14	0						
15	0	15	.87						
16	0	16	.12						
17	0	17	0						
18	0								
19	0								
20	0								
21	.30								
22	0								
23	.22								
24	.54								
25	0								
26	.04								
27	0								
28	0								
29	.03								
30	0								
31	.27								

TABLE 14 CHLORIDES IN RAW WATER (PRIOR TO ED1R)

DEC.	ppm	JAN.	ppm
		1	-
		2	-
		3	52
		4	53
		5	52
		6	52
		7	51
8	51	8	-
9	51	9	-
10	55	10	52
11	-	11	51
12	-	12	53
13	54	13	50
14	54	14	51
15	54	15	-
16	55	16	-
17	51	17	51
18	-		
19	-		
20	52		
21	-		
22	52		
23	51		
24	-		
25	-		
26	-		
27	52		
28	50		
29	50		
30	52		
31	52		

TABLE 15 RAINFALL DATA (ED1R)

JAN.	IN.	FEB.	IN.	MAR.	IN.	APR.	IN.	MAY	IN.
		1	tr.	1	0	1	0	1	0
		2	tr.	2	0	2	0	2	0
		3	0	3	0	3	0	3	0
		4	0	4	0	4	0	4	
		5	0	5	0	5	0	5	0.21
		6	0	6	0	6	tr.	5	tr.
		7	0	7	0	7	0	7	tr.
		8	0.03	8	tr.	8	0	8	0.06
		9	tr.	9	0.91	9	0	9	0.63
		10	tr.	10	tr.	10	0.17	10	0.36
		11	0	11	0	11	0.45	11	1.45
		12	0.01	12	0	12	0.67	12	0.08
		13	0	13	0	13	0.54	13	0.08
		14	1.58	14	0	14	0.07	14	0
		15	0.44	15	0	15	tr.	15	0
		16	tr.	16	0	16	tr.	16	0
		17	0	17	0	17	0	17	0
18	tr.	18	0	18	0	18	0	18	0
19	tr.	19	0	19	0	19	0	19	0
20	0	20	0	20	0	20	0	20	0
21	0	21	0	21	0	21	tr.		
22	0	22	0	22	0	22	tr.		
23	0	23	0	23	0	23	tr.		
24	0	24	0	24	0	24	0.07		
25	tr.	25	0	25	0	25	0		
26	0	26	0	26	0	26	0		
27	0	27	0	27	0	27	0		
28	0	28	0.04	28	0	28	0		
29	.03			29	0	29	0		
30	0			30	0	30	0		
31	.02			31	0				

TABLE 16 CHLORIDES IN RAW WATER (ED1R)

JAN.	ppm	FEB.	ppm	MAR.	ppm	APR.	ppm	MAY	ppm
		1	53	1	53	1	54	1	-
		2	54	2	52	2	-	2	56
		3	53	3	53	3	-	3	55
		4	53	4	53	4	55	4	56
		5	-	5	-	5	54	5	55
		6	-	6	-	6	55	6	56
		7	54	7	55	7	54	7	-
		8	53	8	54	8	54	8	-
		9	54	9	54	9	-	9	56
		10	53	10	53	10	-	10	58
		11	53	11	54	11	56	11	58
		12	-	12	-	12	50	12	57
		13	-	13	-	13	56	13	56
		14	56	14	54	14	57	14	-
		15	54	15	54	15	54	15	-
		16	55	16	56	16	-	16	58
		17	55	17	55	17	-	17	58
18	54	18	53	18	54	18	56	18	57
19	52	19	-	19	-	19	54	19	57
20	52	20	-	20	-	20	56	20	56
21	53	21	-	21	55	21	55		
22	-	22	52	22	55	22	57		
23	-	23	54	23	54	23	-		
24	53	24	53	24	55	24	-		
25	52	25	53	25	54	25	55		
26	52	26	-	26	-	26	55		
27	53	27	-	27	-	27	55		
28	52	28	53	28	54	28	56		
29	-			29	56	29	56		
30	-			30	55	30	-		
31	53			31	56				

TABLE 17   VINYL CHLORIDE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
4/22/77	94	.78	.79	.84	.81	.56	.61	.32
26	98	.93	.70	.93	.96	.52	.66	.40
5/3/77	105	1.08	.81	.91	.84	.51	.62	.50
6	108	.62	.74	.68	.50	.30	.66	.27
10	112	.72	.75	.73	.76	.56	.53	.47
13	115	.66	.55	.52	.48	.41	.41	.31
17	119	.78	.78	.84	.70	.49	.58	.35
20	122	.88	.68	.74	.50	.60	.33	.48

TABLE 18 METHYLENE CHLORIDE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	μg/1 Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	.02	N					
21	3	.19	N	N	N	N	N	N
25	7	.02	N	N	N	N	N	N
28	10	.01	N	N	N	N	N	N
2/1/77	14	.04	N	N	N	N	N	N
4	17	-	N	N	N	N	N	N
8	21	.4	N	N	N	N	N	N
11	24	.19	N	N	N	N	N	N
15	28	.12	N	N	N	N	N	N
18	31	.1	N	N	N	N	N	N
22	35	.12	N	N	N	N	N	N
25	38	.01	N	N	N	N	N	N
3/1/77	42	N	N	N	N	N	N	N
4	45	.03	N	N	N	N	N	N
8	49	N	N	N	N	N	N	N
11	52	N	N	N	N	N	N	N
15	56	N	N	N	N	N	N	N
22	63	.09	N	N	N	N	N	N
25	66	.02	N	N	N	N	N	N
29	70	N	N	N	N	N	N	N
4/1/77	73	.02	N	N	N	N	N	N
5	77	.01	N	N	N	N	N	N
12	84	.01	N	N	N	N	N	N
22	94	.025	N	N	N	N	N	N

(continued)

TABLE 18 (continued)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	.05	N	N	N	N	N	N
5/3/77	105	.06	N	N	N	N	N	N
6	108	.10	N	N	N	N	N	N
10	112	.18	N	N	N	N	N	N
13	115	.025	N	N	N	N	N	N
17	119	.062	N	N	N	N	N	N
20	122	.03	N	N	N	N	N	N

TABLE 19 trans-1,2-DICHLOROETHENE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
		µg/l						
1/18/77	0	1.0	N	N	N	N	.22	N
21	3	1.16	N	N	.05	N	.15	N
25	7	.62	N	N	.44	N	.07	N
28	10	1.10	N	N	.16	N	.85	N
2/1/77	14	1.30	N	N	.12	N	1.10	N
4	17	1.90	N	N	.07	N	1.00	N
8	21	1.20	N	N	.16	N	.94	N
11	24	1.12	N	N	.05	N	.82	N
15	28	3.1	N	N	.10	N	.30	N
18	31	.80	.02	N	.06	N	.80	N
22	35	.09	N	N	.07	N	.07	N
25	38	.65	.01	N	.08	N	.84	N N
3/1/77	42	.17	N	N	.07	N	.02	N
4	45	.33	N	N	.07	N	.20	N
8	49	.40	N	N	.15	N	.35	N
11	52	.20	N	N	.06	N	.05	N
15	56	.62	.04	N	.06	N	.29	N
22	63	.9	.02	N	.20	N	.75	N
25	66	1.30	.04	N	.18	N	.60	N
29	70	.52	.05	N	.03	N	.57	N
4/1/77	73	4.9	.10	N	.13	N	.90	N
5	77	.85	.07	N	.15	N	.40	N
12	84	.29	.07	N	.06	N	.13	N
22	94	1.43	.66	N	1.35	.09	.81	.12

(continued)

TABLE 19 (continued)

Date	Day	Sample 1	Sample 3	μg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	1.83	.45	N	2.03	.12	.91	.03
5/3/77	105	1.79	.90	N	1.29	.07	.79	.31
6	108	.91	.67	N	.73	.08	.15	.13
10	112	1.05	.76	N	1.08	.11	.76	.26
13	115	1.26	.63	N	.85	.09	.57	.107
17	119	1.36	.60	N	1.05	.08	.79	.22
20	122	1.72	.68	N	.72	.16	.70	.37

TABLE 20 1,1-DICHLOROETHANE (ED1R)

Date	Day	Sample 1 (μg/l)	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	.50	N	N	.36	N	.16	N
21	3	.36	N	N	.03	N	.05	N
25	7	.50	N	N	.35	N	.06	N
28	10	.50	N	N	.05	N	.48	N
2/1/77	14	1.1	N	N	.30	N	.75	N
4	17	.40	N	N	.04	N	.30	N
8	21	.40	.02	N	.06	N	.30	N
11	24	.30	.02	N	.03	N	.20	N
15	28	.24	.08	N	–	N	.12	N
18	31	.40	.06	N	.06	N	.10	N
22	35	.06	.01	N	.02	N	.01	N
25	38	.20	.01	N	.03	N	.30	N
3/1/77	42	.15	.01	N	.02	N	.03	N
4	45	.13	N	N	.12	N	.09	N
8	49	.11	.02	N	.05	N	.20	N
11	52	.08	N	N	.03	N	N	N
15	56	.20	.02	N	.03	N	.12	N
22	63	.30	.03	N	.04	N	.15	N
25	66	.34	.04	N	.06	N	.05	N
29	70	.30	.04	N	.01	N	.12	N
4/1/77	73	.49	.05	N	.02	N	.25	N
5	77	.29	.10	N	.03	.01	.13	N
12	84	.26	.02	N	.03	N	.13	N
22	94	.34	.32	N	.29	N	.09	.09

(continued)

TABLE 20 (continued)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	.47	.17	.05	.45	.07	N	.15
5/3/77	105	.43	.38	.08	.25	.06	.15	.19
6	108	.31	.29	.05	.16	.06	.09	1.10
10	112	.23	.34	.09	.22	.06	.15	.19
13	115	.36	.24	.06	.24	.06	.20	.09
17	119	.41	.23	.06	.31	.02	.20	.15
20	122	.42	.24	.07	.26	.10	.25	.17

TABLE 21 cis-1,2-DICHLOROETHENE DATA SHEET (ED1R)

		μg/1						
Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	16.3	N	-	14.4	N	11.9	N
21	3	25.6	N	-	16.0	N	17.9	N
25	7	27.9	.18	.35	28.2	-	19.8	N
28	10	23.6	.08	.08	23.0	.50	23.9	N
2/1/77	14	23.9	.20	.30	23.0	.60	19.6	N
4	17	23.4	1.70	-	21.0	.14	19.0	1.0
8	21	36.5	2.7	.08	39.1	.37	13.6	.05
11	24	40.0	4.8	.30	11.3	.10	22.0	N
15	28	31.3	4.2	.23	19.8	.50	18.0	.50
18	31	27.3	7.2	.70	22.8	2.3	24.4	N
22	35	26.4	7.8	.70	25.3	1.9	14.0	N
25	38	34.9	8.9	.13	36.4	3.5	16.7	.20
3/1/77	42	26.5	5.3	.10	25.2	2.2	23.0	.40
4	45	29.5	11.2	.30	47.0	6.3	21.7	1.20
8	49	25.0	12.0	.44	33.5	4.5	4.5	1.10
11	52	27.8	21.0	.44	29.8	3.0	15.0	.92
15	56	31.4	18.0	.70	15.5	2.9	16.1	N
22	63	29.1	17.3	1.60	34.0	4.4	27.7	3.5
25	66	36.9	22.1	2.3	30.0	3.9	22.7	3.5
29	70	33.4	21.6	2.5	22.1	4.7	20.1	4.0
4/1/77	73	40.7	27.7	3.2	30.9	4.8	25.0	5.8
5	77	19.9	10.2	1.40	13.1	3.3	9.9	4.0
12	84	30.6	18.7	2.7	25.4	5.1	21.0	5.4
22	94	28.0	25.7	6.1	28.3	7.8	17.4	7.6

(continued)

TABLE 21 (continued)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	32.7	30.4	5.1	33.5	5.7	18.5	7.2
5/3/77	105	33.7	23.3	7.4	25.9	7.3	20.6	11.7
6	108	23.1	29.4	8.8	28.7	7.5	19.0	11.2
10	112	18.9	21.9	7.0	25.6	7.0	17.2	9.2
13	115	28.7	24.6	6.9	23.6	7.6	17.0	N
17	119	24.2	21.3	11.0	22.8	8.6	20.0	9.6
20	122	29.5	16.1	5.4	13.0	8.9	19.4	9.2

TABLE 22 CHLOROFORM DATA SHEET (ED1R)

		μg/l						
Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	N	N	-	.20	N	68.2	.42
21	3	N	N	-	.35	N	62.1	2.2
25	7	N	N	.35	.83	-	75.4	3.7
28	10	N	4.2	.08	1.30	.40	84.6	2.5
2/1/77	14	N	N	.30	1.00	1.40	80.0	2.9
4	17	N	N	-	2.0	.05	77.0	7.3
8	21	N	N	.08	3.0	N	61.5	2.8
11	24	N	0.30	.30	1.01	.20	73.2	6.2
15	28	N	.59	.23	.80	.20	60.6	5.2
18	31	N	.06	.70	.80	.30	71.1	6.0
22	35	N	N	.70	.80	.20	74.1	6.6
25	38	N	N	.13	2.2	.80	60.4	13.0
3/1/77	42	N	.10	.10	.50	.06	55.0	13.0
4	45	N	.70	.30	1.90	.60	70.2	15.9
8	49	N	N	.44	2.4	.53	61.1	19.3
11	52	N	N	.44	.48	.16	140	28.4
15	56	N	N	.70	.86	.19	65.5	27.8
22	63	N	N	1.60	2.2	.44	64.8	25.1
25	66	N	N	2.30	.80	.41	60.6	21.5
29	70	N	N	2.5	.77	.33	80.6	32.2
4/1/77	73	N	N	3.2	.90	.20	57.8	29.3
5	77	N	N	1.40	.98	.29	47.7	29.5
12	84	N	N	2.7	1.46	.90	78.7	34.8
22	94	N	N	6.1	N	.65	84.7	35.3

(continued)

TABLE 22 (continued)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	N	N	5.1	N	.60	58.5	34.5
5/3/77	105	N	N	7.4	1.20	.70	83.4	44.3
6	108	N	N	8.8	N	.16	67.7	58.8
10	112	N	N	7.0	1.00	N	62.1	40.5
13	115	N	N	6.9	.99	.20	78.8	54.7
17	119	N	N	11.0	2.7	.87	66.8	47.8
20	122	N	N	5.4	.52	.59	82.0	46.0

TABLE 23 1,2-DICHLOROETHANE, 1,1,1- TRICHLOROETHANE AND CARBON TETRACHLORIDE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
				µg/l				
1/18/77	0	.20	.07	.03	.04	N	.02	N
21	3	.34	N	N	N	N	1.20	N
25	7	.04	N	N	N	N	.02	N
28	10	.07	.01	N	.01	N	.58	N
2/1/77	14	.06	N	N	.02	N	.67	N
4	17	.12	N	N	.01	N	.70	N
8	21	.08	N	N	.01	N	.25	N
11	24	.20	.02	N	.01	N	.50	N
15	28	N	N	N	N	N	N	N
18	31	.13	.01	N	.01	N	.50	N
22	35	.03	N	N	N	N	.97	N
25	38	.05	N	N	.01	N	1.13	N
3/1/77	42	N	N	N	N	N	N	N
4	45	.02	N	N	.02	N	.31	N
8	49	.01	N	N	.01	N	.60	N
11	52	.02	N	N	.01	N	.60	N
15	56	.03	N	N	N	N	1.18	N
22	63	.06	N	N	.02	N	.93	N
25	66	.80	N	N	.06	.05	.40	N
29	70	.02	N	N	N	N	.16	N
4/1/77	73	.09	N	N	.02	N	3.15	N
5	77	.01	N	N	N	N	.33	N
12	84	.21	.03	.01	.02	N	.87	N
22	94	N	.01	N	N	N	N	N

(continued)

TABLE 23 (continued)

Date	Day	μg/l Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	.26	.10	.08	.27	N	N	.03
5/3/77	105	.08	.06	N	.05	N	2.16	.24
6	108	N	.02	N	.01	N	.97	.05
10	112	.17	.05	.03	N	N	1.42	.45
13	115	.03	.02	N	.02	N	.41	N
17	119	.04	N	N	.04	N	.77	.14
20	122	.03	.01	N	.01	N	.27	.02

TABLE 24 TRICHLOROETHYLENE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	.05	N	N	.01	N	N	N
21	3	26	N	N	.01	N	.02	N
25	7	N	N	N	N	-	.03	N
28	10	.11	N	N	.03	N	.16	N
2/1/77	14	.24	N	N	N	N	N	N
4	17	.15	N	N	.01	N	.38	N
8	21	.16	N	N	.03	N	.22	N
11	24	.13	.01	N	.03	N	.22	N
15	28	.26	N	N	-	N	-	N
18	31	.13	.01	N	N	N	.20	N
22	35	8	N	N	N	N	N	N
25	38	.03	N	N	.02	.01	.50	N
3/1/77	42	.02	N	N	N	N	N	N
4	45	.04	N	N	.02	N	.36	N
8	49	.04	N	N	.01	N	.30	N
11	52	.01	N	N	.02	N	.30	N
15	56	.06	N	N	.01	N	.36	N
22	63	.14	N	N	.04	N	.50	N
25	66	.17	N	N	.03	.01	.04	N
29	70	.14	N	N	.01	N	N	N
4/1/77	73	.22	N	N	.01	N	.66	N
5	77	.12	.01	N	.01	N	.18	N
12	84	.08	.01	N	.02	N	.34	N
22	94	.20	.06	N	.31	.06	.06	.01

(continued)

TABLE 24 (continued)

Date	Day	μg/l Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	.34	.07	.04	.44	.03	.27	.04
5/3/77	105	.06	.05	.03	.19	.03	.43	.03
6	108	.14	.07	N	.19	.01	.13	N
10	112	.12	.06	.04	.20	.05	.40	.13
13	115	.20	.05	.01	.16	.02	.03	N
17	119	.20	.03	N	.22	.02	.19	N
20	122	.23	.05	.01	.16	.03	.11	.02

TABLE 25 BROMODICHLOROMETHANE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	N	N	N	.11	N	45.0	N
21	3	N	N	N	.01	N	55.5	.28
25	7	N	N	N	.05	-	38.7	.40
28	10	N	.18	.16	.20	.40	50.6	.30
2/1/77	14	N	N	N	.30	.90	38.2	.40
4	17	N	.18	N	1.60	N	46.2	3.2
8	21	N	N	N	1.20	N	47.2	7.7
11	24	N	.20	.13	.30	N	54.9	2.5
15	28	N	.10	.13	.18	.03	33.4	.90
18	31	N	.10	.08	N	N	46.4	N
22	35	N	N	N	.01	N	61.4	1.30
25	38	N	N	N	.40	.25	34.3	2.2
3/1/77	42	N	N	N	.01	N	33.6	2.8
4	45	N	N	N	.16	.15	47.1	3.5
8	49	N	N	N	.23	.08	35.7	2.2
11	52	N	N	N	.01	N	45.1	7.6
15	56	N	N	N	.01	N	45.5	8.1
22	63	N	N	N	.30	.10	52.3	7.9
25	66	N	.05	N	.14	.03	28.9	6.4
29	70	N	N	N	.07	N	44.3	9.2
4/1/77	73	N	N	N	.07	N	44.2	9.2
5	77	N	N	N	.57	N	27.5	9.1
12	84	N	N	N	.01	N	55.0	10.4
22	94	N	N	N	N	.04	29.7	11.7

(continued)

TABLE 25 (continued)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	N	N	N	.02	.03	34.6	9.9
5/3/77	105	N	N	N	.05	.06	38.6	18.8
6	108	N	N	N	.05	.05	49.9	26.5
10	112	N	N	N	.04	.04	38.0	17.3
13	115	N	N	N	.50	.03	43.0	19.0
17	119	N	N	N	1.4	N	49.2	19.1
20	122	N	N	N	.02	.60	29.7	18.0

TABLE 26 TETRACHLOROETHYLENE DATA SHEET (ED1R)

Date	Day	Sample 1 (μg/l)	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	.05	.01	N	.01	.01	N	N
21	3	.30	.02	.01	N	.02	.02	N
25	7	.03	.01	N	.01	-	.01	N
28	10	.06	N	N	.01	N	.20	.01
2/1/77	14	.03	N	N	.01	.01	.04	.02
4	17	.10	.01	N	.01	N	.14	.01
8	21	.03	N	N	-	N	.09	N
11	24	.04	N	N	N	N	N	N
15	28	.05	N	N	.01	N	N	N
18	31	.03	N	N	N	N	N	N
22	35	N	N	N	N	N	N	N
25	38	.01	N	N	N	N	N	N
3/1/77	42	N	N	N	N	N	N	N
4	45	N	N	N	.02	.03	N	N
8	49	N	N	N	N	N	N	N
11	52	N	N	N	N	N	N	N
15	56	N	N	N	N	N	N	N
22	63	N	N	N	N	N	N	N
25	66	.01	N	N	N	N	N	N
29	70	N	N	N	N	N	N	N
4/1/77	73	N	N	N	N	N	N	N
5	77	N	N	N	N	N	N	N
12	84	N	N	N	N	N	N	N
22	94	N	N	N	N	N	N	N

(continued)

TABLE 26 (continued)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
		μg/1						
26	98	N	N	N	N	N	N	.02
5/3/77	105	N	N	N	N	N	N	N
6	108	N	N	N	N	N	N	N
10	112	N	N	N	N	N	N	N
13	115	N	N	N	N	N	N	N
17	119	N	N	N	N	N	N	N
20	122	N	N	N	N	N	N	N

TABLE 27 CHLORODIBROMOMETHANE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	N	N	N	N	N	13.3	N
21	3	N	N	N	N	N	14.9	N
25	7	N	N	N	N	-	11.7	.20
28	10	N	.08	.04	.01	.50	28.8	.10
2/1/77	14	N	N	N	N	.40	17.5	.08
4	17	N	N	N	.70	N	25.0	1.20
8	21	N	N	N	.30	N	31.1	1.50
11	24	N	.16	.20	20.5	7.9	42.0	1.10
15	28	N	.10	.04	.06	N	25.1	.50
18	31	N	.07	N	N	N	25.8	N
22	35	N	N	N	N	N	34.1	.20
25	38	N	N	N	.12	.08	20.2	.07
3/1/77	42	N	N	N	N	N	21.0	.04
4	45	N	N	N	.10	.10	29.5	.60
8	49	N	N	.10	.34	N	23.0	1.00
11	52	N	N	N	N	N	30.6	1.60
15	56	N	N	N	N	N	29.8	2.1
22	63	N	N	N	.02	N	36.3	2.1
25	66	N	N	N	.01	N	12.7	.70
29	70	N	N	N	N	N	9.7	2.1
4/1/77	73	N	N	N	.01	N	32.3	2.2
5	77	N	N	N	.26	N	16.2	1.9
12	84	N	N	N	N	N	34.0	2.6
22	94	N	N	N	N	N	10.9	4.7

(continued)

TABLE 27 (continued)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
		µg/l						
26	98	N	N	N	.04	.08	16.0	2.5
5/3/77	105	N	N	N	N	.06	20.6	8.6
6	108	N	N	N	N	N	50.0	12.4
10	112	N	N	N	.04	.13	28.3	6.5
13	115	N	N	N	.18	N	26.0	6.7
17	119	N	N	N	5.4	N	32.3	7.3
20	122	N	N	N	N	N	9.9	6.1

TABLE 28 CHLOROBENZENE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
				µg/l				
1/18/77	0	N	N	N	.01	N	N	N
21	3	.10	N	N	N	N	.02	N
25	7	.10	N	N	N	N	.02	N
28	10	N	N	N	N	N	.02	N
2/1/77	14	.60	N	N	.01	N	1.10	N
4	17	1.30	N	N	N	N	.07	N
8	21	.20	.01	N	.03	N	.04	N
11	24	1.53	N	N	N	N	1.80	N
15	28	.02	N	N	N	N	N	N
18	31	.02	N	N	N	N	N	N
22	35	N	N	N	N	N	N	N
25	38	.04	N	N	N	N	N	N
3/1/77	42	N	N	N	N	N	N	N
4	45	N	N	N	N	N	N	N
8	49	.01	N	N	N	N	N	N
11	52	N	N	N	N	N	N	N
15	56	.01	N	N	N	N	.02	N
22	63	.02	N	N	.01	N	.14	N
25	66	.08	N	N	.02	N	.02	N
29	70	.02	N	N	N	N	N	N
4/1/77	73	.08	N	N	.07	N	.05	N
5	77	.02	N	N	-	N	N	N
12	84	N	N	N	N	N	.04	N
22	94	.10	N	N	.09	.01	.03	N

(continued)

TABLE 28 (continued)

Date	Day	Sample 1	Sample 3	µg/1 Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	.39	N	N	.13	N	.04	N
5/3/77	105	.11	N	N	.07	.01	.13	N
6	108	.07	N	N	.08	N	.11	N
10	112	.05	N	N	.06	N	.10	N
13	115	.69	N	N	.06	N	.22	N
17	119	.16	N	N	.09	N	.05	N
20	122	.11	N	N	.06	.03	.05	N

TABLE 29 BROMOFORM DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
				μg/l				
1/18/77	0	N	N	N	N	N	1.30	N
21	3	N	N	N	N	N	.30	N
25	7	N	N	N	N	-	.90	N
28	10	N	N	N	N	N	4.6	N
2/1/77	14	N	N	N	N	N	2.1	N
4	17	N	N	N	.14	N	3.2	.10
8	21	N	N	N	.01	N	2.9	.60
11	24	N	.15	N	.70	.60	1.50	3.4
15	28	N	N	N	N	N	3.0	N
18	31	N	N	N	N	N	3.0	N
22	35	N	N	N	N	N	7.2	.06
25	38	N	N	N	N	N	1.7	N
3/1/77	42	N	N	N	N	N	1.6	N
4	45	N	N	N	N	N	2.6	N
8	49	N	N	N	.41	N	1.5	N
11	52	N	N	N	N	N	1.4	N
15	56	N	N	N	N	N	1.52	N
22	63	N	N	N	.17	N	2.1	N
25	66	N	N	N	N	N	.30	N
29	70	N	N	N	N	N	.51	N
4/1/77	73	N	N	N	N	N	3.2	N
5	77	N	N	N	N	N	1.08	N
12	84	N	N	N	N	N	1.4	N
22	94	N	N	N	N	N	.14	N

(continued)

TYPING GUIDE SHEET

TABLE 29 (continued)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
		µg/l						
26	98	N	N	N	N	N	.59	N
5/3/77	105	N	N	N	N	N	.13	.86
6	108	N	N	N	N	N	1.14	N
10	112	N	N	N	N	N	1.60	1.0
13	115	N	N	N	N	N	1.70	.09
17	119	N	N	N	N	N	3.4	.33
20	122	N	N	N	N	N	1.01	.27

TABLE 30 p-CHLOROTOLUENE DATA SHEET (ED1R)

Date	Day	Sample 1	Sample 3	Sample 5 (µg/l)	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	N	N	N	N	N	N	N
21	3	.44	N	N	N	N	.10	N
25	7	N	N	N	N	N	N	N
28	10	N	N	N	N	N	N	N
2/1/77	14	.08	N	N	.01	N	N	N
4	17	.40	N	N	.02	N	.55	N
8	21	.10	N	N	N	N	N	N
11	24	.30	N	N	N	N	N	N
15	28	N	N	N	N	N	N	N
18	31	N	N	N	N	N	N	N
22	35	N	N	N	N	N	N	N
25	38	N	N	N	N	N	N	N
3/1/77	42	N	N	N	N	N	N	N
4	45	N	N	N	N	N	N	N
8	49	N	N	N	N	N	N	N
11	52	N	N	N	N	N	N	N
15	56	N	N	N	N	N	N	N
22	63	N	N	N	N	N	N	N
25	66	.02	N	N	.04	N	N	N
29	70	N	N	N	N	N	N	N
4/1/77	73	N	N	N	N	N	N	N
5	77	N	N	N	-	N	N	N
12	84	N	N	N	N	N	N	N
22	94	N	N	N	N	N	N	N

(continued)

TABLE 30 (continued)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	1.47	N	N	.10	N	N	N
5/3/77	105	.07	N	N	N	N	N	N
6	108	.21	N	N	.17	1.2	N	N
10	112	N	N	N	N	N	N	N
13	115	.02	N	N	N	N	N	N
17	119	N	N	N	.21	N	N	N
20	122	.38	N	N	.54	N	N	.09

TABLE 31 m-DICHLOROBENZENE, p-DICHLOROBENZENE AND o-DICHLOROBENZENE DATA SHEET (ED1R)

Date	Day	Sample 1 (µg/l)	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	.8	.02	N	.10	N	.10	N
21	3	1.9	.08	.07	.02	N	1.4	N
25	7	N	N	N	N	N	N	N
28	10	.90	N	N	.20	N	2.1	N
2/1/77	14	.40	.02	.01	.10	N	1.8	.03
4	17	.10	N	N	N	N	.14	N
8	21	2.0	N	N	.23	N	3.8	N
11	24	.63	N	N	.01	N	.30	N
15	28	N	N	N	N	N	N	N
18	31	N	N	N	N	N	N	N
22	35	N	N	N	N	N	N	N
25	38	N	N	N	N	N	N	N
3/1/77	42	N	N	N	N	N	N	N
4	45	N	N	N	.50	N	N	N
8	49	N	N	N	N	N	N	N
11	52	N	N	N	N	N	N	N
15	56	N	N	N	N	N	N	N
22	63	N	N	N	N	N	N	N
25	66	2.3	N	N	.30	.07	N	N
29	70	N	N	N	N	N	N	N
4/1/77	73	.19	N	N	.12	N	N	N
5	77	N	N	-	-	-	-	N
12	84	N	N	N	N	N	N	N
22	94	.46	N	N	.50	N	.11	N

(continued)

TABLE 31 (continued)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
		µg/l						
26	98	10.9	N	N	2.57	N	N	N
5/3/77	105	2.24	N	N	N	N	1.22	N
6	108	1.61	N	N	1.75	.12	1.20	N
10	112	1.30	N	N	N	N	.90	N
13	115	2.70	N	N	1.67	N	N	N
17	119	1.60	N	N	2.41	N	.61	N
20	122	4.51	N	N	1.21	.17	5.2	.54

TABLE 32 INSTANTANEOUS THM (ED1R)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
				µg/l				
1/18/77	0	N	N	N	0.3	N	128	0.4
21	3	N	N	N	0.4	N	133	2.5
25	7	N	N	N	0.9	-	127	4.3
28	10	N	4.5	3.8	1.5	1.3	169	2.9
2/1/77	14	N	N	9.3	1.3	2.7	138	3.4
4	17	N	0.2	N	4.4	0.1	151	11.8
8	21	N	N	N	4.5	N	143	12.6
11	24	N	0.8	0.5	2.0	8.7	172	13.2
15	28	N	0.8	0.4	1.0	0.2	122	6.6
18	31	N	0.2	0.2	0.8	0.3	146	6.0
22	35	N	N	N	0.8	0.2	177	8.2
25	38	N	N	N	2.7	1.2	117	15.3
3/1/77	42	N	0.1	N	0.5	0.1	111	15.8
4	45	N	0.7	N	2.2	0.9	149	20.0
8	49	N	N	0.1	3.4	0.6	121	22.5
11	52	N	N	N	0.5	0.2	217	37.6
15	56	N	N	N	0.9	0.2	142	38.0
22	63	N	N	N	2.7	0.5	156	35.1
25	66	N	0.1	N	0.9	0.4	103	28.6
29	70	N	N	N	0.9	0.3	135	43.5
4/1/77	73	N	N	N	1.1	0.2	138	40.6
5	77	N	N	N	1.9	0.3	93	40.5
12	84	N	N	N	1.5	0.9	169	47.8
22	94	N	N	N	N	0.7	125	51.7

(continued)

TABLE 32 (continued)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	N	N	N	0.1	0.6	110	46.9
5/3/77	105	N	N	N	1.3	0.9	143	72.6
6	108	N	N	N	N	0.3	169	97.7
10	112	N	N	N	1.1	0.2	130	65.3
13	115	N	N	N	1.7	0.2	150	80.5
17	119	N	N	N	9.5	0.9	152	74.5
20	122	N	N	N	0.5	1.2	123	70.4

TABLE 33 TERMINAL THM (ED1R)

Date	Day	Sample 2	Sample 4	μg/1 Sample 6	Sample 8	Sample 10	Sample 12	Sample 14
1/18/77	0	385	12	2	491	333	564	439
21	3	617	345	706	438	430	399	244
25	7	486	335	517	509		502	373
28	10	758	499	610	576	538	548	438
2/1/77	14	758	646	808	464	368	460	331
4	17	792	524	528	471	480	534	370
8	21	878	560	624	591	556	629	520
11	24	790	552	481	493	488	559	357
15	28	807	579	628	474	515	493	427
18	31	832	508	667	557	522	546	455
22	35	733	557	630	580	532	547	394
25	38	823	601	597	559	544	635	504
3/1/77	42	710	524	551	573	576	612	557
4	45	466	611	640	464	450	590	377
8	49	936	437	445	490	493	433	428
11	52	633	511	512	412	402	343	360
15	56	617	343	510	424	372	429	392
22	63	639	424	446	429	398	456	362
25	66	569	445	419	406	387	411	327
29	70	616	445	438	351	376	387	317
4/1/77	73	618	488	455	455	462	520	391
5	77	348	397	374	364	363	360	264
12	84	655	452	507	444	418	472	336
22	94	514	418	423	424	424	434	400

(continued)

TABLE 33 (continued)

Date	Day	µg/l Sample 2	Sample 4	Sample 6	Sample 8	Sample 10	Sample 12	Sample 14
26	98	602	500	496	447	466	529	466
5/3/77	105	914	790	686	744	602	603	564
6	108	552	464	434	406	451	510	360
10	112	537	425	350	355	403	393	337
13	115	604	414	413	409	400	415	369
17	119	576	394	394	375	355	390	351

TABLE 34 THM FP (ED1R)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
1/18/77	0	385	12	2	491	333	436	439
21	3	617	345	706	438	430	266	241
25	7	486	335	517	508	-	375	369
28	10	758	499	610	574	537	379	435
2/1/77	14	758	646	808	463	365	322	328
4	17	792	524	528	467	480	383	358
8	21	878	560	624	585	556	486	507
11	24	790	552	481	491	481	387	344
15	28	807	579	628	473	515	371	420
18	31	832	508	667	556	522	400	449
22	35	733	557	630	579	532	370	386
25	38	823	601	597	556	543	518	489
3/1/77	42	710	524	551	572	576	501	541
4	45	466	611	640	462	549	441	357
8	49	936	437	445	487	492	312	405
11	52	633	511	512	411	402	126	322
15	56	617	343	510	423	372	287	354
22	63	639	424	446	426	397	300	327
25	66	569	445	419	405	387	308	298
29	70	616	445	438	351	376	252	273
4/1/77	73	618	488	455	454	462	382	350
5	77	348	397	379	362	363	267	223
12	84	655	452	507	442	417	303	288
22	94	514	418	423	424	423	309	348

(continued)

TABLE 34 (continued)

Date	Day	Sample 1	Sample 3	µg/l Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
26	98	602	500	496	447	465	419	419
5/1/77	105	914	790	686	743	601	460	491
6	108	552	464	434	406	451	341	262
10	112	537	425	350	354	403	263	272
13	115	604	414	413	407	400	265	288
17	119	576	394	394	365	354	238	276
average*		659	500	527	471	459	349	362

*average of total column of data or from arrow (↓)

TABLE 35 TOC DATA SHEET (ED1R)

		SAMPLE 1		SAMPLE 3		SAMPLE 5		SAMPLE 7		SAMPLE 9		SAMPLE 11		SAMPLE 13	
DAY	DATE	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC
0	1/18/77	9.9	283	3.3	186	10.3	<1	1.0	87	1.2	5	1.4	199	1.0	12
3	1/21/77	10.4	271	4.6	181	9.2	234	-	-	-	-	-	-	-	-
7	1/25/77	9.6	331	6.5	253	9.1	187	6.8	237	-	-	6.4	250	6.2	163
14	2/1/77	11.1	373	8.6	306	10.8	289	7.9	57	7.6	33	7.6	301	6.7	191
21	2/8/77	9.6	308	7.9	223	9.4	240	6.7	105	6.5	4	6.6	248	5.5	114
28	2/15/77	7.8	252	6.4	201	7.5	204	5.5	156	5.2	15	5.2	162	5.0	105
35	2/22/77	9.9	327	8.7	264	9.4	256	7.1	209	6.3	20	6.4	257	6.3	180
42	3/1/77	10.1	334	9.0	264	9.8	253	5.0	215	6.9	7	7.1	242	6.9	155
64	3/23/77	9.3	-	8.4	-	9.0	-	6.2	-	5.6	-	5.6	-	5.4	-
71	3/30/77	9.0	-	8.2	-	8.7	-	5.3	-	4.6	-	4.3	-	4.3	-
78	4/6/77	10.0	313	9.0	191	9.7	233	6.7	230	6.4	3	6.6	262	6.6	127
84	4/12/77	10.3	307	9.7	108	10.3	169	7.5	79	7.0	0	7.0	222	7.0	167
91	4/19/77	10.2	322	9.7	256	10.1	266	7.7	248	7.1	4	7.2	256	7.0	187
98	4/26/77	10.1	283	11.0	183	10.3	264	7.5	274	6.9	12	6.8	251	6.9	174
105	5/3/77	10.3	337	9.7	242	10.1	190	7.5	275	6.9	18	6.8	252	6.8	176
112	5/10/77	10.5	315	10.0	226	10.3	235	7.2	229	6.9	31	7.0	231	7.0	179
119	5/17/77	9.2	296	8.9	211	9.3	229	6.6	222	6.4	18	6.2	211	6.1	158
127	5/25/77	9.9	278	9.3	241	9.7	229	7.2	219	6.7	27	6.7	228	6.7	203

EXPERIMENTAL DESIGN 2

Summary of Data and

Concentration of

Individual Halogenated

Organic Compounds

TYPING GUIDE SHEET

TABLE 1 SUMMARY OF DATA (ED2)

June 3

Sample No.	Location	Tests: pH	Turbidity NTU	Chlorine Residual: Free ppm	Total ppm
11	5th column in initial	8.7	0.28	1.95	3.10
12	5th column in 6 days	8.3	0.26	0	0.10
15	5th column out initial	8.7	0.17	0	0.30
16	5th column out 6 days	8.4	0.15	0	0.05
17	4th column out initial	8.8	0.13	0	0.30
18	4th column out 6 days	8.4	0.15	0	0.05

SIX-DAY AGED, SPIKED

Samples

June 9

	thio	Borax Buffer	Cl_2 water	sample Volume	Cl_2	Chlorine Residual: pH	free ppm	total ppm
11	1 drop			60 ml				
12	none	3 ml	0.70 ml	56.3 ml	40 ppm	9.15	17.1	19.5
15	1 drop			60 ml				
16	none	3 ml	0.70 ml	56.3 ml	40 ppm	9.15	16.8	19.2
17	1 drop			60 ml				
18	none	3 ml	0.70 ml	56.3 ml	40 ppm	9.15	18.0	19.

(continued)

EPA-287 (Cin.) (4-76)

TABLE 1 (continued)

June 7

Sample No.	Location	Tests: pH	Turbidity NTU	Chlorine Residual: Free ppm	Total ppm
11	5th column in initial	8.9	0.20	1.95	2.70
12	5th column in 6 days	8.6	.22	0	0.10
15	5th column out initial	8.7	0.13	0	0.50
16	5th column out 6 days	8.7	0.13	0	0.05
17	4th column out initial	8.8	0.12	0	0.30
18	4th column out initial	85	0.14	0	0.05

SIX-DAY AGED, SPIKED

Samples

	thio	Borax Buffer	Cl_2 water	Sample Volume	Cl_2	June 14 Chlorine Residual: pH	free ppm	total ppm
11	1 drop			60 ml				
12	none	3 ml	0.78 ml	56.2 ml	40 ppm	9.10	12.9	15.9
15	1 drop			60 ml			.75	
16	none	3 ml	0.78	56.2 ml	40 ppm	9.05	14.4	18.0
17	1 drop			60 ml				
18	none	3 ml	0.78	56.2 ml	40 ppm	9.05	11.7	16.0

(continued)

TYPING GUIDE SHEET

TABLE 1 (continued)

June 10

Sample No.	Location	Tests pH	Turbidity NTU	Chlorine Residual Free ppm	Total ppm
11	5th column in initial	9.3	.16	2.05	2.85
12	5th column in 6 days	9.15	.12	0	0.15
15	5th column out initial	9.3	.13	0	.40
16	5th column out 6 days	9.1	.13	0	0.05
17	4th column out initial	9.2	.11	0	.35
18	4th column out 6 days	8.9	.13	0	0.05

SIX-DAY AGED, SPIKED

Samples

June 16

	thio	Buffer	Cl_2 water	Sample Volume	Cl_2	Chlorine Residual pH	free ppm	total ppm
11	1 drop			60 ml				
12	none	3 ml	0.70 ml	56.3 ml	40 ppm	9.10	0	9.0
15	1 drop			60 ml				
16	none	3 ml	0.70 ml	56.3 ml	40 ppm	9.05	0	9.0
17	1 drop			60 ml				
18	none	3 ml	0.70 ml	56.3 ml	40 ppm	9.05	0	8.7

(continued)

EPA-287 (Cin.) (4-70)

TABLE 1 (continued)

June 14

Sample No.	Location	Tests			
		pH	Turbidity	Chlorine Residual	
			NTU	Free	Total
				ppm	ppm
11	5th column in initial	9.3	0.14	2.95	3.8
12	5th column in 6 days	9.1	.26	0	.15
15	5th column out initial	9.1	0.30	.10	.60
16	5th column out 6 days	9.1	.14	0	0.10
17	4th column out initial	8.8	0.23	0	.45
18	4th column out 6 days	8.8	0.16	0	.05

SIX-DAY AGED, SPIKED

Samples

	thio	Borax Buffer	Cl_2 water	Sample Volume	Cl_2	June 20 Chlorine Residual		
						pH	free	total
							ppm	ppm
11	1 drop			60 ml				
12		3 ml	1.0 ml	56 ml	40 ppm	9.15	17.7 2.95	20.1 3.35
15	1 drop			60 ml				
16		3 ml	1.0 ml	56 ml	40 ppm	9.15	15.9 2.65	16.8 2.80
17	1 drop			60 ml				
18		3 ml	1.0 ml	56 ml	40 ppm	9.15	17.1 2.85	18.9 3.15

(continued)

TABLE 1 (continued)

June 17

Sample No.	Location	Tests: pH	Tests: Turbidity NTU	Tests: Chlorine Residual Free ppm	Tests: Chlorine Residual Total ppm
11	5th column in initial	8.6	.38	2.55	3.20
12	5th column in 6 days	8.3	.16	0	.15
15	5th column out initial	8.5	.16	0	.50
16	5th column out 6 days	8.0	.17	0	0.10
17	4th column out initial	8.55	.17	0	.40
18	4th column out 6 days	8.0	.16	0	0.10

SIX-DAY AGED, SPIKED

Samples

	thio	Borax Buffer	Cl_2 water	Sample Volume	Cl_2	June 23 Chlorine Residual: pH	free ppm	total ppm
11	1 drop			60 ml				
12		3 ml	0.82	56.2 ml	45 ppm	19.5	21.3	9.1
15	1 drop			60 ml				
16		3 ml	0.82	56.2 ml	45 ppm	18.6	20.1	9.1
17	1 drop			60 ml				
18		3 ml	0.82	56.2	45 ppm	18.9	20.7	9.1

(continued)

TABLE 1 (continued)

June 28

Sample No.	Location	Tests			
		pH	Turbidity	Chlorine Residual	
			NTU	Free ppm	Total ppm
11	5th column in initial	9.2	.19	2.35	3.15
12	5th column in 6 days	9.1	.13	0	.10
15	5th column out initial	9.2	.19	.20	.65
16	5th column out 6 days	9.0	.12	0	0.05
17	4th column out initial	8.9	.16	0	.40
18	4th column out 6 days	8.4	.17	0	0.05

SIX-DAY AGED, SPIKED

Samples

	thio	Borax Buffer	Cl_2 water	sample Volume	Cl_2	July 4 Chlorine Residual		
						pH	free ppm	total ppm
11	1 drop			60 ml				
12	none	3 ml	0. 0 ml	56.1 ml	40 ppm			
15	1 drop			60 ml				
16	none	3 ml	0.90 ml	56.1 ml	40 ppm			
17	1 drop			60 ml				
18	none	3 ml	0.90 ml	56.1 ml	40 ppm			

(continued)

TYPING GUIDE SHEET

TABLE 1 (continued)

July 5

Sample No.	Location	Tests			
		pH	Turbidity	Chlorine Residual	
			NTU	Free ppm	Total ppm
11	5th column in initial	9.2	1.2	2.20	3.00
12	5th column in 6 days	9.0	.17	0	.10
15	5th column out initial	9.15	.26	.20	.80
16	5th column out 6 days	9.0	.16	0	.05
17	4th column out initial	8.9	.20	0	.35
18	4th column out 6 days	8.5	.18	0	.05

SIX-DAY AGED, SPIKED

Samples

	thio	Borax Buffer	Cl_2 water	sample volume	Cl_2	July 11 Chlorine Residual		
						pH	free	total
11	none	none	none	60 ml	none		ppm	ppm
12	none	3 ml	0.95	56.05	40 ppm	16.5	19.2	9.50
15	none	none	none	60 ml	none			
16	none	3 ml	1.10	55.90	4.6ppm	20.4	22.8	9.50
17	none	none	none	60 ml	none			
18	none	3 ml	0.95	56.05	40 ppm	16.2	18.9	9.50

(continued)

TABLE 1 (continued)

July 26

Sample No.	Location	Tests: pH	Turbidity NTU	Chlorine Residual Free ppm	Chlorine Residual Total ppm
11	5th column in initial	9.1	.28	1.35	1.85
12	5th column in 6 days				
15	5th column out initial	9.0	.28	.10	.50
16	5th column out 6 days				
17	4th column out initial	9.2	.17	0	.35
18	4th column out 6 days				

SIX-DAY AGED, SPIKED

Samples

	thio	Borax Buffer	Cl_2 water	sample volume	Cl_2	August 1 Chlorine Residual: pH	free ppm	total ppm
11	1 drop			60 ml				
12		3 ml	0.78 ml	56.22	40 ppm			
15	1 drop			60 ml				
16		3 ml	0.78 ml	56.22	40 ppm			
17	1 drop			60 ml				
18		3 ml	0.78 ml	56.22	40 ppm			

(continued)

TABLE 1 (continued)

July 29

Sample No.	Location	Tests: pH	Turbidity NTU	Chlorine Residual: Free ppm	Total ppm
11	5th column in initial	9.4	.23	1.60	2.55
12	5th column in 6 days				
15	5th column out initial	9.3	.86	.20	.60
16	5th column out 6 days				
17	4th column out initial	9.1	.25	0	0.40
18	4th column out 6 days				

SIX-DAY AGED, SPIKED

Samples

	thio	Borax Buffer	Cl_2 water	sample volume	Cl_2	August 4 Chlorine Residual: pH	free ppm	total ppm
11	1 drop			60 ml				
12		3 ml	1.00 ml	56 ml	40 ppm			
15	1 drop			60 ml				
16		3 ml	1.00 ml	56 ml	40 ppm			
17	1 drop			60 ml				
18		3 ml	1.00 ml	56 ml	40 ppm			

(continued)

TABLE 1 (continued)

August 5

Sample No.	Location	Tests: pH	Turbidity NTU	Chlorine Residual free ppm	Chlorine Residual total ppm
11	5th column in initial	9.3	.57	1.40	2.00
12	5th column in 6 days				
15	5th column out initial	9.2	.28	.25	.65
16	5th column out 6 days				
17	4th column out initial	9.3	.24	0	.30
18	4th column out 6 days				

Volumes and Backwash Periods

Date When Sampled	Fifth Column Finish XE-340 Total Volume	Fourth Column Used XE-340 Total Volume
6/3	1.0	3259.3
6/4	24.0	3283.3
6/7	96.0	3355.3
6/10	168.0	3427.3
6/14	264.0	3523.3
6/17	336.0	3595.3
6/21	432.0	3691.3
6/24	504.0	3763.3
6/28	600.0	3859.3
7/1	672.0	3931.3
7/5	768.0	4027.3
7/8	840.0	4090.3
7/12	936.0	4186.3
7/15	1008	4258.3
7/19	1104	4354.3
7/22	1176	4426.3
7/26	1272	4522.3
7/29	1344	4594.3
8/2	1440	4690.3
8/5	1512	4762.3

TABLE 2 VINYL CHLORIDE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	.60	.38	.42				
7	4	.61	.29	.27				
10	7	.40	.33	.19				
14	11	.63	N	N				
17	14	.58	N	N				
28	25	-	-	-				
7/5/77	32	-	-	-				
26	53	.31	-	-				
29	56	.78	.20	.07				
8/5/77	63	-	-	-				

TABLE 3 METHYLENE CHLORIDE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0		NOT TESTED FOR					
7	4							
10	7							
14	11							
17	14							
28	25							
7/5/77	32							
26	53							
29	56							
8/5/77	63							

TABLE 4 trans 1,2-DICHLOROETHENE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	.66	N	.32				
7	4	.87	N	.37				
10	7	.57	N	N				
14	11	1.10	N	.12				
17	14	.73	N	N				
28	25	.94	N	.27				
7/5/77	32	1.18	N	N				
26	53	.95	N	.31				
29	56	.88	N	.48				
8/5/77	63	.71	.01	.21				

TABLE 5 1,1-DICHLOROETHANE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	.22	N	.19				
7	4	.24	N	.20				
10	7	.17	N	N				
14	11	.39	N	N				
17	14	.17	N	N				
28	25	N	N	N				
7/5/77	32	.03	N	N				
26	53	.28	N	.04				
29	56	.23	N	.08				
8/5/77	63	.10	.04	N				

TABLE 6 cis 1,2-DICHLOROETHENE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	18.8	N	11.7				
7	4	18.7	N	10.6				
10	7	14.0	N	N				
14	11	15.5	.25	7.0				
17	14	19.2	N	6.8				
28	25	19.4	N	9.8				
7/5/77	32	13.3	N	5.8				
26	53	16.7	2.1	4.4				
29	56	25.4	3.7	11.7				
8/5/77	63	20.9	5.8	7.7				

TABLE 7 CHLOROFORM DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	57.6	2.2	48.1				
7	4	53.1	2.7	43.4				
10	7	61	3.5	47.5				
14	11	60.7	4.6	53.2				
17	14	58.0	4.0	52.9				
28	25	67.7	10.3	40.0				
7/5/77	32	88.8	13.4	36.1				
26	53	47.9	19.5	16.8				
29	56	81.7	29.1	39.8				
8/5/77	63	63.9	40.8	34.3				

TABLE 8 1,2-DICHLOROETHANE, 1,1,1-TRICHLOROETHANE AND CARBON TETRACHLORIDE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	1.72	N	.19				
7	4	2.0	N	.16				
10	7	1.3	N	N				
14	11	2.6	N	N				
17	14	3.0	N	N				
28	25	.88	N	N				
7/5/77	32	1.4	.31	.37				
26	53	.98	N	.04				
29	56	.63	N	.01				
8/5/77	63	.13	N	N				

TABLE 9 TRICHLOROETHYLENE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	.25	.03	.03				
7	4	.46	.07	.07				
10	7	.21	.18	.12				
14	11	.61	.29	.26				
17	14	.69	1.6	.92				
28	25	1.85	3.9	.46				
7/5/77	32	.34	.61	.22				
26	53	.47	.04	.14				
29	56	.53	.04	.05				
8/5/77	63	.26	.06	.05				

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TABLE 10 BROMODICHLOROMETHANE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	4.5	.2	22.3				
7	4	42.1	.31	20.3				
10	7	39.4	.26	14.5				
14	11	43.0	.40	20.6				
17	14	42.4	.22	16.7				
28	25	44.1	.80	16.9				
7/5/77	32	52.2	2.9	13.8				
26	53	45.2	7.2	8.7				
29	56	42.7	7.4	15.8				
8/5/77	63	30.9	7.7	9.3				

TABLE 11 TETRACHLOROETHYLENE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	N	N	N				
7	4	N	N	N				
10	7	N	N	N				
14	11	N	N	N				
17	14	N	N	N				
28	25	N	N	N				
7/5/77	32	N	N	N				
26	53	N	N	N				
29	56	N	N	N				
8/5/77	63	N	N	N				

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EPA-287 (Cin.) (4-76)

TABLE 12 CHLORODIBROMOMETHANE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	25.3	.06	8.1				
7	4	30.0	.08	7.2				
10	7	23.0	N	4.0				
14	11	26.9	N	6.3				
17	14	31.5	N	5.5				
28	25	23.8	.51	4.8				
7/5/77	32	31.8	.83	5.2				
26	53	24.6	.69	1.4				
29	56	23.8	2.6	5.0				
8/5/77	63	26.1	2.2	4.6				

TABLE 13 CHLOROBENZENE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	.09	N	N				
7	4	.15	N	N				
10	7	.08	N	N				
14	11	.14	N	N				
17	14	N	N	N				
28	25	N	N	N				
7/5/77	32	N	N	N				
26	53	N	N	N				
29	56	.07	.01	N				
8/5/77	63	.06	N	N				

TABLE 14 BROMOFORM DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	1.45	N	.35				
7	4	.85	N	N				
10	7	2.5	N	N				
14	11	3.6	N	N				
17	14	2.6	N	N				
28	25	N	N	N				
7/5/77	32	1.1	N	3.6				
26	53	1.8	N	N				
29	56	.82	N	.06				
8/5/77	63	2.3	.09	.70				

TABLE 15 p-CHLOROTOLUENE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	N	N	N				
7	4	.85	N	N				
10	7	.08	N	N				
14	11	N	N	N				
17	14	N	N	N				
28	25	N	N	N				
7/5/77	32	N	N	N				
26	53	N	N	N				
29	56	N	N	N				
8/5/77	63	N	N	N				

TABLE 16 m-DICHLOROBENZENE, p-DICHLOROBENZENE AND o-DICHLOROBENZENE DATA SHEET (ED2)

Date	Day	5th Col. In Sample 11	4th Col. Out Sample 13	5th Col. Out Sample 13A				
6/3/77	0	N	N	N				
7	4	.20	N	N				
10	7	N	N	N				
14	11	5.13	N	N				
17	14	3.9	N	N				
28	25	N	N	N				
7/5/77	32	N	N	N				
26	53	2.8	N	N				
29	56	1.80	N	N				
8/5/77	63	7.6	.49	N				

EXPERIMENTAL DESIGN 3

Specific Data on

Backwash Dates and Time ,

pH, Turbidity, Color,

Chlorine (Free and Total), and

TOC

TABLE 1 VOLUMES AND BACKWASH TIMES (ED3)

Volumes and Backwash Times, in gal.

1977	Raw 904-30			Raw 904-60			H.T. Effl-904			Finish 904		
Date	Time off	Time BW	Total Volume	Time off	Time BW	Total Volume	Time off	Time BW	Total Volume	Time off	Time BW	Total Volume
8/26	START UP 9 A.M.											
8/27			24			24			24			24
8/28	.25	.25	47.75	.25	.25	47.75	2	2	46	.5	.5	47.5
8/29			71.75			same	2	2	68	.5	.5	71
8/30			95.75			as	2	2	90	.5	.2	94.5
8/31			119.75			raw	2	2	112	.5	.2	118
9/1			143.75			904	1	1	135	.5	.2	141.5
9/2			157.75			20"	1	1	158	.5	.2	165
9/3			191.75				1	1	181	.5	.2	188.5
9/4			215.75				1	1	204	.5	.2	212
9/5			239.75				1	1	227	.5	.2	235.5
9/6			263.75				1	1	250	.5	.2	259
9/7			287.75				1	1	273	.5	.2	282.5
9/8			311.75				4	2	293	.5	.2	306
9/9			335.75				1	1	316	.5	.2	329.5
9/10			359.75				2	2	338	.5	.2	353
9/11			383.75				1	1	361	.5	.2	376.5
9/12			407.75				2	2	383			400.5
9/13			431.75				1	1	406	.5	.2	424.0
9/14			455.75				1	1	429			448
9/15			479.75				2	2	451	.5	.2	471.5
9/16	.25	.25	503.5	.25	.25	503.5	.5	.5	474.5	.2	.2	495.3
9/17			527.5			527.5	1	.5	497.5	.2	.2	518.1
9/18			551.5			551.5	1	.5	520.5	.2	.2	542.9
9/19			575.5				1	.5	543.5			566.9
9/20			599.5				1	.5	566.5			590.9
9/21			623.5			623.5	1.5	1.5	589.0	.2	.2	614.7
9/22			647.5				1.2	1.2	611.8	.2	.2	638.5
9/23			671.5				1	1	634.8	.2	.2	662.3
9/24			695.5			695.5	1	1	657.8	.2	.2	686.1
9/25			719.5			719.5	1	1	680.8	.2	.2	709.9
9/26			743.5				1	1	704.8			733.9
9/27			767.5				0.8	0.8	728.0	0.2	0.2	757.7
9/28			791.5			791.5	1	1	751.0	0.2	0.2	781.5
9/29			815.5			815.5	1	1	774.0	0.2	0.2	805.3

(continued)

TABLE 1 (continued)

Volumes and Backwash Times, in gal.

Date	Raw 904-30 Time off	Raw 904-30 Time BW	Raw 904-30 Total Volume	Raw 904-60 Time off	Raw 904-60 Time BW	Raw 904-60 Total Volume	H.T.Effl-904 Time off	H.T.Effl-904 Time BW	H.T.Effl-904 Total Volume	Finish 904 Time off	Finish 904 Time BW	Finish 904 Total Volume
9/30	0		839.5	0		839.5	1	1	797.0	.2	.2	829.1
10/1			863.5			863.5	0	0	821.0	0	0	853.4
10/2			887.5			887.5	0	0	845.0	0	0	877.4
10/3			911.5			911.5	3	25	866.0	.4	.4	901.0
10/4			935.5			935.5	0	0	890.0	0	0	925.0
10/5			959.5			959.5	3	25	911.0	.2	.2	948.8
10/6			983.5			983.5	0		935.0	0		972.8
10/7			1007.5			1007.5	0		959.0	0		996.8
10/8			1031.5			1031.5	1	1	982.0	.2		1020.6
10/9			1055.5			1055.5	1	1	1005.0	.2	.2	1044.4
10/10			1079.5			1079.5	1	1	1028.0	.2	.2	1068.2
10/11			1103.5			1103.5	0	0	1052.0	0	0	1092.2
10/12			1127.5			1127.5	1.5	1	1074.5	.4	.4	1115.8
10/13			1151.5			1151.5	.5	.5	1098.0	.3	.3	1139.5
10/14			1175.5			1175.5	.5	.5	1121.5	0		1163.5
10/15			1199.5			1199.5	1	1	1144.5	.3	.3	1186.2
10/16			1229.5			1229.5	24	.5	1144.5	24	.5	1186.2
10/17			1247.5			1247.5	0	0	1168.5	0	0	1210.2
10/18			1271.5			1271.5	9	0	1183.5	0	0	1234.2
10/19			1295.5			1295.5	shut	dwn.	1183.5	0	0	1258.2
10/20			1319.5			1319.5	24	off		0		1282.2
10/21	11		1332.5	11		1332.5	24	off		11	0	1295.2
10/22	off			off			off			off		

(continued)

TABLE 1 (continued)

Volumes and Backwash Times, in gal.

Finish GAC			
1977 Date	Time off	BW	Total Volume
8/26	START UP 9 A.M.		
8/27			24
8/28	.25	.25	47.75
			Same as Raw 904 30"
9/16	.25	.25	503.5
9/7			
9/18			
9/19			
9/20			
9/21			623.5
9/22			
9/23			
9/24			
9/25			
9/26			743.5
9/27			767.5
9/28			
9/29			815.5

Finish GAC		
1977 Date	Time off BW	Total Volume
9/30		839.5
	↑ Same as 904 30" ↓	
10/20		1319.5
10/21	11	1332.5
10/22	off	

TABLE 2 CHLORIDES (ED3)

Chlorides, in ppm's Initial

Date 1977	1 Raw In	3 Raw 904-30"	5 Raw 904-60"	7 H.T. Effl. In	9 H.T. Effl. 904	11 Finish In	13 Finish 904	15 Finish GAC
8/26	56	164	27	59	13	73	101	76
8/30	57	68	70	59	73	73	74	73
9/2	58	58	70	59	64	72	72	74
9/6	55	56	57	57	57	71	71	72
9/9	56	56	57	58	59	72	71	72
9/13	55	56	55	58	57	70	70	71
9/16	56	55	54	58	58	71	69	71
9/20	56	57	56	59	58	72	73	72
9/23	56	55	57	58	58	70	72	71
9/27	56	58	56	58	58	72	72	74
9/30	55	57	55	58	58	71	70	72
10/4	56	57	57	59	59	73	73	72
10/6	56	57	58	58	59	71	70	71
10/11	56	55	56	58	58	70	72	72
10/14	56	56	56	58	58	71	72	72
10/18	56	56	57	56	59	71	73	73

TYPING GUIDE SHEET

TABLE 3 pH DATA (ED3)

pH Data Initial

Date 1977	1 Raw In	3 Raw 904-39"	5 Raw 904-60"	7 H.T. Effl. In	9 H.T. Effl. 904	11 Finish In	13 Finish 904	15 Finish GAC
8/26	7.15	9.20	11.65	10.0	11.40	9.45	9.95	9.30
8/30	7.15	7.25	7.25	9.80	9.50	9.10	9.05	9.10
9/2	7.20	7.25	7.25	9.60	9.45	9.15	9.00	9.05
9/6	7.15	7.15	7.20	9.75	9.35	8.80	8.85	8.95
9/9	7.20	7.25	7.25	9.75	9.55	9.00	8.80	8.75
9/13	7.20	7.20	7.25	9.55	9.65	9.05	8.70	8.85
9/16	7.20	7.15	7.20	10.00	9.60	9.00	8.95	8.90
9/20	7.20	7.20	7.30	9.90	9.55	9.10	8.65	8.65
9/23	7.15	7.20	7.15	9.80	9.65	9.05	8.75	8.80
9/27	7.15	7.15	7.20	9.85	9.55	8.95	8.80	8.80
9/30	7.25	7.20	7.30	9.75	9.55	8.85	8.85	8.80
10/4	7.15	7.20	7.20	10.0	9.75	9.10	8.85	8.80
10/7	7.20	7.20	7.25	10.05	9.85	9.15	9.00	8.95
10/10	7.20	7.15	7.20	9.75	9.70	9.15	8.95	8.90
10/14	7.15	7.20	7.20	9.95	9.80	9.15	8.90	8.85
10/18	7.30	7.30	7.40	9.90	9.80	8.90	8.60	8.60

Six Day Aged, pH Data

Date Sampled 1977	Date Tested 1977	2 Raw In	4 Raw 904-30	6 Raw 904-60	8 H.T. In	10 H.T. 904	12 Finish In	14 Finish 904	16 Finish GAC
8/26 F	9/1	6.5	8.6	11.6	9.6	11.3	9.15	9.15	9.2
8/30	9/5	7.45	7.35	7.35	9.45	8.90	8.80	8.25	8.75
9/2	9/8	7.25	7.20	7.60	9.35	9.25	8.75	8.80	8.30
9/6	9/12	7.55	7.30	7.30	9.55	9.15	8.20	8.25	8.60
9/9	9/15	7.20	7.25	7.50	9.45	9.25	8.45	8.50	7.90
9/13	9/19	7.50	7.30	7.30	9.35	9.50	8.65	8.15	8.35
9/16	9/22	7.30	7.35	7.55	9.65	9.35	8.50	8.95	8.35
9/20	9/26	7.20	7.25	7.30	9.65	9.35	8.65	7.90	8.20
9/23	9/29	7.40	7.25	7.40	9.45	9.45	8.55	8.40	8.25
9/27	10/3	7.35	7.20	7.20	9.60	9.30	8.35	8.26	8.45
9/30	10/6	7.45	7.15	7.55	9.25	9.35	8.15	8.45	8.20
10/4	10/10	7.30	7.15	7.20	9.70	9.55	8.45	8.15	8.25
10/6	10/13	7.20	7.15	7.45	9.70	9.65	8.65	8.45	8.25
10/11	10/17	7.40	7.25	7.20	9.35	9.60	8.80	8.50	8.55
10/14	10/20	7.30	7.20	7.40	9.60	9.65	8.85	8.55	8.45
10/18	10/24	7.30	7.15	7.15	9.55	9.40	8.15	7.90	8.05

TABLE 4 TURBIDITY DATA (ED3)

Turbidity Data, in NTU's Initial

Date 1977	1 Raw In	3 Raw 904-30"	5 Raw 904-60"	7 H.T. Effl. In	9 H.T. Effl. 904	11 Finish In	13 Finish 904	15 Finish GAC
8/26	1.4	0.35	0.46	2.7	0.12	0.21	0.13	0.10
8/30	0.45	12.0	13.0	3.9	0.12	0.41	0.10	0.30
9/2	0.48	12	12	4.5	0.22	0.25	0.33	0.18
9/6	1.2	13	13	4.6	0.12	0.24	0.20	0.18
9/9	1.2	12	12	1.6	0.14	0.32	0.31	0.12
9/13	1.1	5.1	15	5.2	0.14	0.15	0.15	0.12
9/16	1.8	5.8	14	3.4	0.14	0.52	0.15	0.21
9/20	0.87	2.3	8.7	1.9	0.12	0.28	0.12	0.12
9/23	1.1	2.3	6.3	3.8	0.15	0.18	0.11	0.22
9/27	0.44	3.5	8.7	1.7	0.16	0.27	0.24	0.17
9/30	1.2	4.7	6.8	3.9	0.20	0.24	0.16	0.12
10/4	.44	5.1	6.2	4.8	0.21	0.20	0.17	0.13
10/7	.74	2.2	4.9	2.6	0.22	0.34	0.18	0.16
10/11	0.49	0.59	3.8	4.2	0.22	0.52	0.12	0.14
10/14	1.0	4.1	6.7	2.0	0.21	0.47	0.16	0.16
10/18	0.31	1.8	6.0	2.9	0.25	0.50	0.13	0.12

Six Day Aged, Turbidity Data

Date Sample 1977	Date Tested 1977	2 Raw In	4 Raw 904-30	6 Raw 904-60	8 H.T. In	10 H.T. 904	12 Finish In	14 Finish 904	16 Finish GAC
8/26	9/1	1.3	0.29	1.1	1.3	0.25	0.21	0.30	0.20
8/30	9/5	3.2	4.2	16	22	0.57	0.28	0.49	0.23
9/2	9/8	2.9	1.4	1.4	2.1	0.23	0.18	0.17	0.13
9/6	9/12	2.2	0.72	2.1	4.2	0.22	0.22	0.22	0.14
9/9	9/15	2.6	2.0	1.2	0.60	0.25	0.27	0.30	0.23
9/13	9/18	1.9	1.5	1.8	1.9	0.20	0.22	0.21	0.21
9/16	9/22	2.3	5.4	3.3	3.5	0.19	0.22	0.14	0.15
9/20	9/26	1.2	1.4	1.3	1.5	0.18	0.25	0.20	0.20
9/23	9/29	1.3	3.5	1.2	0.86	0.20	0.26	0.22	0.23
9/27	10/3	0.73	1.0	1.8	1.0	0.17	0.23	0.18	0.22
9/30	10/6	1.2	4.1	1.2	2.0	0.28	0.27	0.17	0.20
10/4	10/10	1.0	4.2	3.5	5.9	0.20	0.19	0.17	0.18
10/6	10/13	0.91	2.2	1.7	0.53	0.28	0.22	0.20	0.26
10/11	10/17	0.83	1.9	3.3	1.1	0.22	0.26	0.25	0.21
10/14	10/20	1.3	3.1	2.9	0.3	0.20	0.20	0.21	0.16
10/18	10/24	1.0	2.7	4.2	0.74	0.22	0.23	0.26	0.18

TABLE 5 CHLORINE RESIDUALS (ED3)

Chlorine Residuals, in ppm's Initial

Date 1977	7 H.T. Effl.In free	7 H.T. Effl.In total	11 Finished In free	11 Finished In total	13 Finished 904 free	13 Finished 904 total	15 Finished GAC free	15 Finished GAC total
8/26	0	0.20	1.75	2.65	0	0.05	0	0.05
8/30	0	0.10	1.55	2.25	0	0.05	0	0.05
9/2	0	0.10	1.70	2.25	0	0.05	0	0.05
9/6	0	0.10	2.10	2.70	0	0.05	0	0.10
9/9	0	0.25	2.0	2.7	0	0.05	0	0.10
9/13	0	0.25	2.05	2.7	0	0.05	0	0.10
9/16	0	0.15	2.10	2.85	0	0.05	0	0.15
9/20	0	0.10	1.50	2.60	0	0.05	0	0.10
9/23	0	0.10	1.85	2.45	0	0.05	0	0.15
9/27	0	0.05	2.10	2.70	0	0.05	0	0.20
9/30	0	0.05	2.00	2.50	0	0.05	0	0.20
10/4	0	0.10	2.40	3.10	0	0.05	0	0.25
10/7	0	0.05	2.00	2.85	0	0.05	0	0.20
10/11	0	0.05	2.00	2.60	0	0.05	0	0.15
10/14	0	0.05	1.80	2.60	0	0.05	0	0.15
10/18	0	0	1.70	2.25	0	0.05	0	o.20

TABLE 6 TWO DAY AGED SAMPLES (ED3)

Two Day Aged Samples

	13 + 2					15 + 2				
Date Sampled	Date Tested	pH	Turbidity NTU	Cl_2 res. free ppm	Cl_2 res. total ppm	Date tested	pH	Turbidity NTU	Cl_2 res. free ppm	Cl_2 res. total ppm
8/30	9/1	8.9	0.23	0	0.1	9/1	9.1	0.18	0	0.1
9/6	9/8	8.65	0.22	0	0	9/8	8.75	0.13	0	0
9/13	9/15	-	-	-	-	9/15	-	-	-	-
9/20	9/22	8.90	0.22	0	0	9/22	8.65	0.18	0	0.05
9/27	9/29	8.45	0.22	0	0	9/29	8.55	0.21	0	0.05
10/4	10/6	8.45	0.17	0	0.05	10/6	8.50	0.16	0	0.05
10/11	10/12	8.65	0.21	0	0.05	10/13	8.60	0.17	0	0.05
10/18	10/20	8.15	0.25	0	0.05	10/20	8.25	0.16	0	0.10

TABLE 7 RED ROAD SAMPLE (ED3)

Red Road Sample					Initial 17		Four Day Aged 17 + 4				
Data Sampled	Date Tested	Turbidity NTU	Chlorides ppm	pH	Cl_2 res. free ppm	Cl_2 res. total ppm	Date Tested	Turbidity NTU	pH	Cl_2 res. free ppm	Cl_2 res ppm
1977											
9/1	9/1	0.38	75	9.0	0.20	0.50	9/5	0.31	8.7	0	0.00
9/8	9/8					0.35	9/12				
9/15	9/15	1.5	80	9.05	0.00	0.30	9/19				
9/22	9/22	1.8	74	8.85	0.00	0.45	9/26	1.3	8.40	0	0.00
9/29	9/29	3.8	73	8.95	0.10	0.50	10/3	4.9	8.55	0	0.20
10/6	10/6	0.70	80	8.80	0.10	0.45	10/11	0.23	8.45	0	0.10
10/13	10/13	0.91	71	9.05	0.10	0.40	10/17	0.67	8.95	0	0.10
10/20	10/20	0.51	73	9.00	0.05	0.50	10/24	0.27	8.70	0	0.10

TABLE 8 SPIKED SAMPLES IN SERUM BOTTLES (ED3)

Two-Day Aged, Spiked Samples in Serum Bottles

Date Sample 1977	Date Tested 1977	11 + 2			13 + 2			15 + 2		
		pH	Cl_2 res. free ppm	Cl_2 res. total ppm	pH	Cl_2 res. free ppm	Cl_2 res. total ppm	pH	Cl_2 res. free ppm	Cl_2 res. total ppm
8/30	9/1	9.2	0	0.10	8.65	0.00	0.10	8.65	0.00	0.05
9/6	9/8	8.75	0	0.45	9.15	1.40	1.80	9.18	1.55	2.15
9/13	9/15	9.2	0	0.20	9.15	0.90	0.90	9.15	-	-
9/20	9/22	9.25	0	0.40	9.15	0.00	0.30	9.15	0.00	0.20
9/27	9/29	9.00	0	0.30	9.18	0.10	0.50	9.18	0.70	1.00
10/4	10/6	8.75	0	0.10	9.20	0.30	0.45	9.20	0.25	0.55
10/11	10/13	9.10	0	0.20	9.18	0.00	0.30	9.15	0.00	0.30
10/18	10/20	9.05	0	0.20	9.15	0.10	0.55	9.15	0.25	0.85

Sample 11, Aged,

Aged 2 Days

Date Tested	pH	Turbidity NTU	Cl_2 res. free ppm	Cl_2 res. tocal ppm
9/1	9.0	0.15	0	0.10
9/8	8.45	0.17	0	0.25
9/15	-	-	-	-
9/22	9.15	0.66	0	0.25
9/29	8.65	0.24	0	0.20
10/6	8.80	0.18	0	0.25
10/13	8.95	0.35	0	0.15
10/20	8.55	1.0	0	0.10

TABLE 9 SPIKED SAMPLES (ED3)

Six-Day Aged, Spiked Samples

Six Day Buffered and Chlorinated Samples

Chlorine Residual in ppm

DPD Titration - Free and Total

Date Sample	Date Tested	2 Raw In		4 Raw 904-30		6 Raw 904-60		8 H.T. In		10 H.T. 904		12 Finish In		14 Finish 904		16 Finish GAC	
1977	1977	free	total	free	total	free	total	free	total	free	total	free	total	free	total	free	total
8/26	9/1	6.0	8.10	0.3	6.9	18.6	20.1	9.3	7.20	1.8	7.2	0.3	7.8	2.1	8.4	1.2	8.1
8/30	9.5			LABOR DAY													
9/2	9/8	8.1	10.5	0.6	12.6	0.3	13.2	1.5	10.5	0	12.3	6.3	10.8	3.0	9.3	12.3	15
9/6	9/12	15.0	17.4	0	10.8	13.2	16.5	9.3	12.9	7.5	12.6	13.8	15.9	10.2	12.9	9.0	12.0
9/9	9/15	9.0	12.9	6.0	10.8	9.6	14.4	4.8	10.2	6.9	11.4	11.7	13.5	8.1	9.9	10.8	13.5
9/13	9/19	?															
9/16	9/22	12.0	13.5	16.5	17.7	1.2	10.8	1.5	8.7	0.6	9.9	15.9	17.4	1.8	4.2	7.2	9.3
9/20	9/26	8.7	11.4	10.2	11.7	12.0	13.5	9.0	11.4	15.9	17.7	14.1	15.9	14.4	15.6	13.8	15.6
9/23	9/29	Bottles				18.6	20.7	19.2	21.3	21.6	23.4	broken					
9/27	10/3	17.4	20.1	16.2	18.3	19.8	21.0	5.4	9.0	5.4	9.0	11.4	13.8	10.8	12.9	10.8	12.9
9/29	10/6	15.0	16.2	16.8	18.0	16.8	18.0	18.6	19.8	13.8	15.6	19.2	20.4	18.6	20.7	18.3	20.1
10/4	10/11	16.2	17.4	18.6	19.8	24.0	25.2	21.3	22.2	23.4	24.3	28.5	29.7	28.2	29.4	27.0	27.9
10/6	10/13	19.2	21.0	21.9	24.3	21.9	23.7	1.80	2.40	4.2	9.00	0.9	11.7	20.1	22.2	12.9	14.7
10/11	10/17	19.8	21.0	21.6	23.4	23.7	24.9	22.5	24.0	26.4	27.3	29.4	31.8	28.5	30.0	27.8	29.2
10/14	10/20	14.1	15.3	14.1	15.6	14.7	16.2	18.3	20.1	19.8	20.4	24.9	26.7	24.0	26.4	24.9	26.1
10/18	10/24	17.4	19.2	19.2	21.0	20.7	22.2	23.1	25.2	24.0	25.5	28.5	31.2	30.0	31.5	27.3	29.7

TABLE 10 SPIKED SAMPLES IN SERUM BOTTLES pH (ED3)

Six-Day Aged, Spiked Sample in Serum Bottles pH

Date Sampled 1977	Date Tested 1977	2 Raw In	4 Raw 904-30	6 Raw 904-60	8 H.T. In	10 H.T. 904	12 Finish In	14 Finish 904	16 Finish GAC
8/26	9/1	9.00	9.00	9.05	9.10	9.10	9.10	9.10	9.10
8/30	9/5	Labor Day							
9/2	9/8	8.95	8.95	9.00	9.10	9.10	9.10	9.10	9.10
9/6	9/12	9.05	9.00	8.85	9.10	9.05	9.05	9.05	9.05
9/9	9/15	9.00	9.00	8.85	9.05	9.05	9.05	9.05	9.05
9/16	9/22	9.05	9.05	8.95	9.05	9.05	9.05	9.05	9.05
9/20	9/26	9.00	9.00	8.85	9.10	9.05	9.05	9.10	9.10
9/23	9/29	Bottles		8.95	9.10	9.10	broken		
9/27	10/3	9.19	9.15	9.13	9.18	9.18	9.18	9.18	9.18
9/29	10/6	9.05	9.00	8.90	9.10	9.10	9.10	9.10	9.10
10/4	10/11	9.05	9.05	8.95	9.10	9.10	9.05	9.05	9.05
10/7	10/13	8.95	9.00	8.95	9.05	9.05	9.05	9.00	9.05
10/11	10/17	9.05	9.05	9.05	9.10	9.05	9.05	9.05	9.05
10/15	10/20	9.05	9.05	9.05	9.15	9.15	9.10	9.10	9.10
10/18	10/24	9.00	9.00	9.00	9.05	9.05	9.05	9.05	9.05

TABLE 11 RED ROAD SPIKED SAMPLES IN SERUM BOTTLES (ED3)

Red Road Spiked Samples in Serum Bottles

Date Sampled	Date Tested	17 + 4								
		pH	Cl_2 res.		pH	Cl_2 res.		pH	Cl_2 res.	
			free ppm	total ppm		free ppm	total ppm		free ppm	total ppm
9/1	9/5	Labor Day								
9/8	9/12	9.10	8.4	12.0						
9/15	9/19	9.05	15.3	16.8						
9/22	9/26	9.90	0.9	9.6						
9/29	10/3	9.15	2.40	6.60						
10/6	10/10	no sample								
10/13	10/17	9.10	4.75	8.10						
10/20	10/24	9.05	23.7	25.2						

TABLE 12 SUMMARY OF ROUTINE DATA (ED3)

SUMMARY OF ROUTINE DATA

TURBIDITY in NTU's Sample	INITIAL Sample no.	max.	min.	ave.	AGED Sample no.	max.	min.	ave.
Raw	1	1.8	0.31	0.89	2	3.2	0.73	1.62
Raw thru 30" of 904	3	13.0	0.35	5.43	4	5.4	2.9	2.48
Raw thru 60" of 904	5	15.0	0.46	8.60	6	16.0	1.1	3.00
H.T. Effl.	7	5.2	1.6	3.36	8	22.0	0.3	3.1
H.T. Effl. thru 30" of 904	9	0.25	0.12	0.17	10	0.57	0.17	0.24
Finished	11	0.52	0.15	0.32	12	0.28	0.18	0.23
Finished thru 30" of 904	13	0.33	0.10	0.17	14	0.49	0.14	0.23
Finished thru GAC	15	0.30	0.10	0.16	16	0.26	0.13	0.20
Finished aged 2 days					11+2	1.0	0.15	0.39
Finished thru 904 aged 2 days					13+2	0.25	0.17	0.22
Finished thru GAC aged 2 days					15+2	0.21	0.13	0.14
Red Road (Miami Lakes)	17	3.8	0.38	1.37	17+4	4.9	0.23	1.78
pH								
same as above	1	7.3	7.15	7.2	2	7.5	6.5	7.3
	3	9.2	7.15	7.4	4	8.6	7.15	7.3
	5	11.65	7.15	7.5	6	11.6	7.15	7.6
	7	10.05	9.55	9.8	8	9.7	9.25	9.5
	9	11.4	9.35	9.73	10	11.3	8.9	9.5
	11	9.45	8.8	9.1	12	9.15	8.15	8.5
	13	9.95	8.6	8.9	14	9.15	7.9	8.4
	15	9.3	8.6	8.88	16	9.2	7.9	8.36
					11+2	9.15	8.45	8.8
					13+2	8.9	8.15	8.6
					15+2	9.1	8.25	8.6
	17	9.05	8.8	8.95	17+4	8.95	8.4	8.6

(continued)

TABLE 12 (continued)

SUMMARY OF ROUTINE DATA

CHLORIDES IN ppm's		INITIAL				AGED		
Sample	Sample no.	max.	min.	ave.	Sample no.	max.	min.	ave.
Raw	1	58	55	56				
Raw thru 30" of 904	3	164	55	64				
Raw thru 60" of 904	5	70	27	56				
H.T. Effl.	7	59	56	58				
H.T. Effl. thru' 30" of 904	9	73	13	57				
Finished	11	73	70	71				
Finished thru 30" of 904	13	101	69	73				
Finished thru GAC	15	76	71	72				
Red Road (Miami Lakes)	17	80	71	75				
CHLORINE RESIDUALS in ppm's		INITIAL FREE				INITIAL TOTAL		
H.T. Effl.	7	0	0	0	7	0.25	0	0.10
Finished	11	2.40	1.50	1.90	11	3.10	2.25	2.60
Finished thru 30" of 904	13	0.0	0.0	0.0	13	0.05	0.05	0.05
Finished thru GAC	15	0	0	0	15	0.25	0.05	0.15
Red Road (Miami Lakes)	17	0.2	0	0.08	17	0.5	0.3	0.4
Finished, aged 2 days					11+2	0.25	0.1	0.2
Finished thru 30" of 904, aged 2 days					13+2	0.1	0	0.04
Finished thru GAC					15+2	0.1	0	0.07

(continued)

TYPING GUIDE SHEET
EPA-287 (Cin.) (4-76)

TABLE 12 (continued)

SUMMARY OF THE CHLORINE AND pH DATA ON THE AGED, SPIKED SAMPLES

SAMPLE No.	SAMPLE	CHLORINE RESIDUAL (ppm) FREE max.	min.	ave.	TOTAL max.	min.	ave.	pH max.	min.	ave.
2	Raw	19.8	6.0	12.7	21.0	8.1	15.7	9.2	8.95	9.05
4	Raw thru 30" of 904	21.9	0	12.5	24.3	6.9	16.2	9.15	8.95	9.00
6	Raw thru 60" of 904	24.0	0.3	15.4	25.2	10.8	18.6	9.13	8.85	8.95
8	H.T. Effl.	23.1	1.5	11.8	25.2	2.4	14.6	9.16	9.05	9.10
10	H.T. Effl. thru 904	26.4	0	12.2	27.3	7.2	16.1	9.18	9.05	9.08
12	Finished	29.4	0.3	15.8	31.8	7.8	19.0	9.18	9.05	9.08
14	Finished thru 904	30.0	1.8	15.4	31.5	4.2	18.0	9.18	9.05	9.08
16	Finished thru GAC	27.8	1.2	15.6	29.7	8.1	18.0	9.18	9.05	9.08
11+2	Finished, 2 days old	0	0	0	0.45	0.10	0.25	9.25	8.75	9.04
13+2	Finished thru 904, aged 2 days	1.4	0	0.35	1.80	0.30	0.60	9.2	8.65	9.1
15+2	Finished thru GAC aged 2 days	1.55	0	3.9	2.15	0.30	0.75	9.15	8.65	9.1
17+4	Red Road aged 4 days	23.7	0.9	9.24	25.2	6.60	13.1	9.2	9.05	9.10

TABLE 13 RAINFALL DATA (PRIOR TO ED3)

MAY	IN.	JUNE	IN.	JULY	IN.	AUG.	IN.		
		1	6.60	1	0	1	0.02		
		2	1.63	2	0.01	2	0		
		3	1.42	3	0	3	0		
		4	0.20	4	tr.	4	0.13		
		5	0.12	5	0.10	5	0.04		
		6	0.01	6	1.58	6	0.88		
		7	0	7	0	7	0.59		
		8	tr.	8	0	8	0.78		
		9	0.51	9	0	9	0.17		
		10	0.21	10	0	10	0		
		11	0	11	0	11	0.69		
		12	0.35	12	0	12	0.26		
		13	0	13	0	13	0.39		
		14	0.13	14	0.09	14	0		
		15	0.93	15	0.83	15	0.01		
		16	0	16	1.06	16	0.03		
		17	0	17	0.21	17	0.05		
		18	0	18	0.04	18	0		
		19	0.07	19	0.01	19	0		
		20	0.33	20	0	20	0		
21	0	21	tr.	21	tr.	21	0.51		
22	tr.	22	0	22	0.01	22	0.66		
23	0	23	0	23	0.90	23	0.01		
24	0	24	0	24	0.38	24	0.42		
25	0.15	25	0	25	0	25	0.01		
26	0.58	26	0	26	0				
27	0.20	27	0	27	0.01				
28	0.37	28	0	28	0				
29	0	29	0	29	0				
30	0	30	0	30	0				
31	0.14			31	0				

TABLE 14 RAINFALL DATA (ED3)

AUG.	IN.	SEPT.	IN.	OCT.	IN.
		1	1.45	1	0
		2	2.19	2	0
		3	0.36	3	0
		4	0	4	0
		5	0	5	0
		6	0	6	.04
		7	0.01	7	.58
		8	0.26	8	0
		9	tr.	9	0
		10	0	10	0
		11	tr.	11	0
		12	0	12	tr.
		13	tr.	13	0
		14	0	14	0
		15	0.71	15	0
		16	0.10	16	0
		17	tr.	17	0
		18	tr.	18	0
		19	0		
		20	tr.		
		21	0.01		
		22	0.35		
		23	0.27		
		24	tr.		
		25	0.03		
26	0.20	26	0.76		
27	0.40	27	0.54		
28	tr.	28	0		
29	0.75	29	0		
30	0.98	30	0		
31	0.30				

TABLE 15 CHLORIDES IN RAW WATER (PRIOR TO ED3)

MAY	ppm	JUNE	ppm	JULY	ppm	AUG.	ppm		
		1	60	1	58	1	53		
		2	59	2	-	2	52		
		3	58	3	-	3	53		
		4	-	4	-	4	53		
		5	-	5	58	5	-		
		6	59	6	58	6	-		
		7	60	7	56	7	-		
		8	60	8	56	8	56		
		9	59	9	-	9	54		
		10	60	10	-	10	-		
		11	-	11	57	11	54		
		12	-	12	57	12	52		
		13	59	13	56	13	-		
		14	50	14	57	14	-		
		15	50	15	59	15	58		
		16	58	16	-	16	57		
		17	59	17	-	17	58		
		18	-	18	55	18	56		
		19	-	19	55	19	58		
		20	58	20	56	20	-		
21	-	21	59	21	56	21	-		
22	-	22	50	22	56	22	56		
23	57	23	58	23	-	23	59		
24	57	24	59	24	-	24	57		
25	57	25	-	25	56	25	56		
26	57	26	-	26	52				
27	59	27	58	27	51				
28	-	28	57	28	53				
29	-	29	58	29	53				
30	-	30	58	30	-				
31	59			31	-				

TABLE 16 CHLORIDES IN RAW WATER (ED3)

AUG.	ppm	SEPT.	ppm	OCT.	ppm				
		1	55	1	-				
		2	56	2	-				
		3	-	3	55				
		4	-	4	56				
		5	-	5	57				
		6	56	6	56				
		7	57	7	56				
		8	57	8	-				
		9	55	9	-				
		10	-	10	-				
		11	-	11	56				
		12	56	12	58				
		13	57	13	56				
		14	57	14	56				
		15	57	15	-				
		16	59	16	-				
		17	-	17	57				
		18	-	18	55				
		19	56						
		20	57						
		21	57						
		22	57						
		23	58						
		24	-						
		25	-						
26	57	26	57						
27	-	27	56						
28	-	28	58						
29	55	29	57						
30	56	30	58						
31	57								

TABLE 17 VINYL CHLORIDE DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	Sample 5 (µg/l)	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	-	-	-	-	-	-	-	-
30	4	.84	.78	.84	.73	.85	.46	.49	N
9/2/77	7	.54	.54	.28	1.23	.83	.33	.78	.17
6	11	1.40	1.33	1.36	.29	.16	.84	.12	.22
9	14	1.30	.92	.99	.31	.35	.87	.76	.64
13	18	1.34	1.21	1.21	.39	.34	.82	.84	.41
16	21	1.54	1.35	1.02	N	N	.49	.02	.33
20	25	10.0	8.05	8.8	9.2	9.3	7.2	5.4	5.8
23	28	N	N	N	9.8	7.6	7.1	8.3	N
27	32	16.7	15.9	9.8	15.5	10.1	14.1	10.4	5.4
30	35	13.6	16.3	15.3	9.2	6.7	11.6	6.0	4.7
10/4/77	39	18.8	11.0	14.8	9.6	7.9	6.1	8.1	6.0
7	42	10.9	9.7	8.3	8.6	5.9	7.8	4.5	3.3
11	46	10.8	9.7	8.8	2.1	5.6	14.1	4.1	.01
14	49	14.6	14.0	8.8	9.7	8.8	4.5	5.8	1.85
18	53	8.1	16.4	14.4	12.9	10.4	9.5	7.6	3.62

TABLE 18 METHYLENE CHLORIDE DATA SHEET (ED3)

		μg/1							
Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	-							
30	4	.8							
9/2/77	7	N							
6	11	.27							
9	14	.09							
13	18	.15							
16	21	.17							
20	25	.01							
23	28	.05							
27	32	.23							
30	35	.05							
10/4/77	39	.15							
7	42	.07							
11	46	.13							
14	49	N							
18	53	N							

TABLE 19 trans-1,2-DICHLOROETHENE DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	Sample 5 (μg/l)	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	1.89	.14	N	1.12	.36	.57	N	N
30	4	.25	1.15	.88	.93	.72	.58	.68	N
9/2/77	7	.85	.42	.39	1.61	1.12	.15	1.25	N
6	11	1.97	1.87	1.90	.03	.11	.92	.02	N
9	14	1.71	1.29	1.31	6.76	.93	1.36	.11	.40
13	18	2.0	1.86	1.56	.59	.77	1.35	.96	N
16	21	2.4	1.86	1.42	1.09	.98	1.34	.92	N
20	25	1.48	1.36	1.35	3.64	2.29	1.05	.66	N
23	28	1.82	3.63	2.55	1.56	1.12	1.06	1.29	N
27	32	2.6	2.35	3.6	4.7	2.87	3.2	2.64	N
30	35	3.9	3.74	3.0	.74	.91	2.1	.98	.12
10/4/77	39	3.5	2.69	1.9	1.29	1.08	.81	1.09	N
7	42	1.7	1.53	.65	1.59	1.14	.78	.81	N
11	46	2.1	1.70	.85	.56	.57	.50	.86	N
14	49	1.8	1.49	1.85	1.96	1.53	.35	.32	N
18	53	2.6	1.65	1.31	.92	4.8	.47	N	.06

TABLE 20 1,1-DICHLOROETHANE DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	µg/1 Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	.81	.70	N	.49	N	.53	N	N
30	4	.45	.39	.37	.43	.56	.30	.34	N
9/2/77	7	.16	.12	.12	.68	.40	N	.49	N
6	11	.48	.52	.49	.12	.09	.34	.06	N
9	14	.82	.91	.52	N	N	.79	.90	N
13	18	.75	.95	.64	N	.47	.89	.19	.25
16	21	1.01	.88	.80	.61	.56	.52	.59	.55
20	25	.67	.79	.57	.79	N	.58	N	.05
23	28	.57	.54	.38	.59	.55	.47	.68	N
27	32	1.23	.79	.79	8.8	.80	.50	N	.48
30	35	.62	.62	N	.72	.60	N	.63	.62
10/4/77	39	.68	.81	.47	.52	.48	.25	N	.45
7	42	.70	.58	.29	N	N	N	.32	N
11	46	1.00	.83	.47	N	.39	N	.45	N
14	49	N	.32	.42	.49	.33	N	N	N
18	53	N	N	N	N	N	N	N	.38

TABLE 21 cis-1,2-DICHLOROETHENE (ED3)

Date	Day	Sample 1	Sample 3	µg/1 Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	37.9	3.4	.51	26.3	3.5	18.3	6.2	N
30	4	25.7	24.8	23.8	15.9	24.9	20.3	19.1	N
9/2/77	7	31.7	29.5	30.6	28.2	21.7	21.9	18.1	N
6	11	25.4	26.5	28.7	30.3	26.1	18.7	18.5	N
9	14	23.9	19.0	22.4	23.0	23.5	16.0	11.1	10.7
13	18	24.2	24.2	21.2	20.5	23.0	20.8	17.0	N
16	21	29.3	25.3	22.7	22.4	21.5	21.0	17.8	2.2
20	25	20.1	25.0	22.6	27.4	25.3	19.8	18.1	3.5
23	28	27.9	29.7	28.6	25.3	21.1	17.9	23.5	2.9
27	32	34.2	29.7	21.1	23.5	22.0	18.7	12.13	5.6
30	35	25.0	24.4	23.1	23.9	22.7	14.2	17.2	8.9
10/4/77	39	25.9	24.0	20.9	24.2	19.3	17.2	8.6	8.7
7	42	23.5	21.4	19.8	21.9	20.8	14.4	17.3	8.8
11	46	19.8	18.2	18.8	25.3	14.6	27.6	12.8	9.8
14	49	26.6	22.4	20.1	21.3	17.4	16.8	14.7	9.9
18	53	23.5	27.9	25.2	25.9	20.4	5.8	N	14.5

TABLE 22 cis-1,2-DICHLOROETHENE DATA SHEET (ED3)
DISTRIBUTION SAMPLES

Date	Day	Sample 17	Sample 17 + 4
9/1/77	6	23.7	13.8
8	13	N	10.2
15	20	14.7	6.2
22	27	-	-
29	34	-	10.9
10/6/77	41	-	
13		14.1	

TABLE 23 cis-1,2-DICHLOROETHENE DATA SHEET (ED3)
(AGED 2 DAYS)

Date	Day	Sample 11 + 2	Sample 13 + 2	Sample 15 + 2
8/26/77	0	25.5	16.3	N
9/2/77	7	17.43	17.1	N
9/9/77	14	18.2	17.1	N

TABLE 24 CHLOROFORM DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	Sample 5 (μg/1)	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	.45	.59	N	1.41	.46	55.2	31.8	.41
30	4	N	N	N	.46	2.9	60.0	77.3	.61
9/2/77	7	N	N	N	2.8	2.9	60.5	62.7	.84
6	11	N	N	N	N	3.9	45.1	90.7	2.8
9	14	N	N	.36	5.0	3.6	49.1	111	N
13	18	N	N	N	1.41	1.25	47.1	79.6	20.9
16	21	N	N	.01	1.21	2.6	60.4	164	44.5
20	25	N	.26	N	1.84	2.2	60.9	134	65.4
23	28	N	N	N	1.52	2.6	48.2	113	48.2
27	32	N	N	N	N	1.70	56.0	98.3	50.2
30	35	N	N	N	3.8	2.8	66.3	114	59.3
10/4/77	39	N	.08	.18	1.68	2.5	57.6	102	51.0
7	42	N	N	N	N	1.04	59.9	103	53.8
11	46	N	N	N	1.05	1.94	78.8	88.5	51.1
14	49	N	N	.16	.66	2.1	54.7	117	57.8
18	53	N	N	N	N	2.2	51.0	108	55.2

TABLE 25 CHLOROFORM DATA SHEET (ED3) DISTRIBUTION SAMPLES

Date	Day	Sample 17	Sample 17 + 4
9/1/77	6	169	221
8	13	128	216
15	20	182	296
22	27	144	237
29	34	147	234
10/6/77	41	99.1	
13	48	122	

TABLE 26 CHLOROFORM DATA SHEET (ED3) (AGED 2 DAYS)

Date	Day	Sample 11 + 2	Sample 13 + 2	Sample 15 + 2
8/26/77	0	162	155	1.8
9/2/77	7	113	170	37.3
9/9/77	14	164	185	96.7
9/16/77	21	142	178	54.2
9/23/77	28	163	185	159
9/30/77	35	133	195	16.8
10/7/77	42	142	180	110

TABLE 27 1,2-DICHLOROETHANE, 1,1,1-TRICHLOROETHANE AND CARBON TETRACHLORIDE DATA SHEET (ED3)

		µg/1							
Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	.07	.78	.23	.36	N	3.0	N	N
30	4	.05	.05	.06	N	N	3.3	11.1	N
9/2/77	7	N	N	N	N	N	3.6	47.0	N
6	11	1.25	2.7	.56	N	N	5.3	2.7	N
9	14	.09	.35	.15	N	N	7.9	4.7	N
13	18	2.1	.25	.23	N	N	4.4	4.1	N
16	21	N	.41	.15	N	.18	6.6	5.3	N
20	25	.07	.08	N	N	N	1.19	6.1	N
23	28	N	N	N	.24	.40	7.8	10.8	N
27	32	.11	N	N	N	.13	10.4	11.7	.59
30	35	N	N	N	.22	.10	9.9	4.2	.34
10/4/77	39	N	12.6	.14	N	N	3.6	5.4	1.00
7	42	N	.08	.05	N	N	6.9	5.8	.09
11	46	.16	.11	.13	N	.09	3.6	5.1	N
14	49	N	N	.15	.55	.07	2.9	2.3	N
18	53	N	N	N	N	N	3.9	N	4.4

TABLE 28 TRICHLOROETHYLENE DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	µg/1 Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	.39	N	N	.36	N	.10	.02	N
30	4	.22	.12	.01	.19	.16	.24	.32	N
9/2/77	7	.09	.08	.05	.50	.24	N	.59	N
6	11	.57	.55	.66	.05	.05	.19	1.30	N
9	14	.43	.39	.46	.34	.40	.47	1.50	.59
13	18	.60	.50	.50	.27	.26	N	.92	N
16	21	.56	.51	.57	.51	.29	.09	.54	.03
20	25	.34	.32	.39	.23	.12	.11	.23	N
23	28	.15	.15	.12	.39	.34	N	.96	N
27	32	.75	.56	.13	2.77	.26	N	.49	N
30	35	.19	.17	.17	.34	.31	N	.02	N
10/4/77	39	.21	.14	.14	.47	.25	N	2.5	N
7	42	.37	.42	.37	.06	.03	N	.02	N
11	46	.58	.44	.25	.09	.24	N	N	N
14	49	.21	.11	.27	.44	.24	N	.23	N
18	53	.25	.19	N	N	N	N	2.3	N

TABLE 29 BROMODICHLOROMETHANE DATA SHEET (ED3)

μg/l

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	N	18.7	N	.53	10.4	31.0	5.5	N
30	4	N	.04	1.86	.22	.59	45.0	27.6	N
9/2/77	7	N	N	N	.68	.50	44.9	38.8	N
6	11	N	N	N	.04	.30	40.7	46.1	N
9	14	N	N	N	1.95	1.20	34.9	34.1	N
13	18	N	N	N	.48	.64	29.5	32.7	N
16	21	N	N	N	.25	.62	45.0	59.8	N
20	25	N	N	N	.07	.29	42.8	55.3	N
23	28	N	N	N	.25	1.02	37.3	65.5	N
27	32	N	N	N	1.37	.51	43.9	51.4	N
30	35	N	N	N	1.56	.59	46.9	51.6	.21
10/4/77	39	N	N	N	1.25	.56	44.7	81.2	N
7	42	N	N	N	.08	N	39.3	53.2	N
11	46	N	N	N	.17	.39	60.1	44.7	.03
14	49	N	N	N	.32	.29	38.5	51.1	N
18	53	N	N	N	N	N	41.3	52.0	N

TABLE 30 BROMODICHLOROMETHANE DATA SHEET (ED3)
DISTRIBUTION SAMPLES

Date	Day	Sample 17	Sample 17 + 4					
9/1/77	6	83.2	108					
8	13	89.0	102					
15	20	90.8	118					
22	27	62.2	135					
29	34	62.8	115					
10/6/77	41	59.8						
13	48	57.8						

TABLE 31 BROMODICHLOROMETHANE DATA SHEET (ED3)
(AGED 2 DAYS)

Date	Day	Sample 11 ± 2	Sample 13 ± 2	Sample 15 ± 2				
8/26/77	0	73.7	51.0	11.6				
9/2/77	7	67.4	86.2	21.5				
9/9/77	14	79.8	95.6	32.0				
9/16/77	21	50.9	58.9	28.3				
9/23/77	28	68.3	86.4	27.9				
9/30/77	35	68.7	87.0	30.7				
10/7/77	42	71.8	76.4	24.7				

TABLE 32 TETRACHLOROETHYLENE DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
		µg/l							
8/26/11	0	N	N	N	N	N	N	N	N
30	4	N	N	N	N	N	N	.02	N
9/2/77	7	N	N	N	N	N	N	.01	N
6	11	N	.10	N	N	N	N	N	N
9	14	N	N	N	N	N	N	N	N
13	18	N	N	N	N	N	N	.08	N
16	21	N	N	N	N	.06	N	.06	N
20	25	N	N	N	N	N	N	N	N
23	28	N	N	N	N	N	N	.04	N
27	32	N	N	N	N	N	N	N	N
30	35	N	N	N	N	N	N	.07	N
10/4/77	39	N	N	N	N	N	N	N	N
7	42	N	N	N	N	.13	N	N	N
11	46	N	N	N	N	N	N	N	N
14	49	N	N	N	N	N	N	N	N
18	53	N	N	N	N	N	N	N	N

TABLE 33 CHLORODIBROMOMETHANE DATA SHEET (ED3)

		µg/l							
Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	N	N	N	.18	N	20.4	.42	N
30	4	N	N	N	.12	.07	29.1	25.4	N
9/2/77	7	N	N	N	.36	.20	29.4	20.4	N
6	11	N	.08	N	N	.06	31.6	23.2	N
9	14	N	N	N	5.2	N	12.4	11.7	N
13	18	N	N	N	N	.23	11.2	10.5	N
16	21	N	N	N	N	.20	26.9	31.7	1.3
20	25	N	N	N	N	N	25.2	32.2	.06
23	28	N	N	N	.09	.42	25.3	36.8	10.8
27	32	N	N	N	.05	1.22	31.4	30.6	4.4
30	35	1.52	N	N	.74	.02	31.4	33.1	7.1
10/4/77	39	N	N	N	.53	.09	28.0	36.6	10.4
7	42	N	N	N	.09	N	24.5	29.4	9.2
11	46	N	N	N	N	.38	36.7	26.6	10.6
14	49	N	N	N	N	.21	35.7	36.1	15.5
18	53	N	N	N	N	N	28.2	33.6	16.6

TABLE 34 CHLORODIBROMOMETHANE DATA SHEET (ED3) DISTRIBUTION SAMPLES

Date	Day	Sample 17	Sample 17 + 4
9/1/77	6	43.4	49.2
8	13	67.4	35.1
15	20	42.1	52.1
22	27	34.2	66.9
29	34	35.4	55.1
10/6/77	41	36.0	
13	48	34.6	

TABLE 35 CHLORODIBROMOMETHANE DATA SHEET (ED3) (AGED 2 DAYS)

Date	Day	Sample 11 + 2	Sample 13 + 2	Sample 15 + 2
8/26/77	0	38.7	22.3	11.6
9/2/77	7	39.7	52.1	21.5
9/9/77	14	34.2	55.9	32.0
9/16/77	21	22.7	29.4	28.3
9/23/77	28	36.8	57.4	27.9
9/30/77	35	43.6	47.7	3.7
10/7/77	42	41.7	48.0	24.7

TABLE 36 CHLOROBENZENE DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	μg/1 Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	.75	2.8	.63	1.27	N	.70	N	N
30	4	.71	.06	N	.76	N	.84	.47	.36
9/2/77	7	.49	1.04	N	1.73	.72	.07	1.60	N
6	11	3.0	1.41	.25	.08	.12	.93	.18	N
9	14	.83	.73	.29	.69	3.8	.95	3.4	N
13	18	1.43	1.54	1.15	.54	.74	.40	1.20	N
16	21	1.69	1.22	1.06	.31	.06	.91	.85	N
20	25	.92	1.57	1.21	.71	.69	2.4	1.19	N
23	28	1.17	1.04	1.95	1.15	.97	.74	1.79	N
27	32	2.0	2.72	2.60	2.58	2.9	1.87	3.7	N
30	35	N	1.34	1.56	.97	.73	1.65	.61	N
10/4/77	39	2.4	1.40	5.3	.93	.51	.45	.96	N
7	42	.87	.92	.52	N	N	.14	.43	N
11	46	1.40	1.20	.88	.02	.63	.51	1.14	N
14	49	1.33	.41	.77	1.72	.64	.53	.22	N
18	53	1.09	.67	N	N	N	.34	.36	N

TABLE 37 BROMOFORM DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	Sample 5 (μg/l)	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	N	N	N	N	N	1.54	.26	N
30	4	N	N	N	N	N	2.5	2.8	N
9/2/77	7	N	N	N	.13	N	4.8	2.3	N
6	11	N	.08	N	N	N	4.6	1.90	N
9	14	N	N	N	N	N	2.3	2.5	N
13	18	N	N	N	N	N	2.5	3.4	N
16	21	N	N	N	N	N	3.1	4.1	N
20	25	1.08	N	N	N	N	2.5	1.83	N
23	28	N	N	N	N	N	3.3	6.5	N
27	32	N	N	N	N	N	3.1	4.3	N
30	35	N	N	N	.07	.15	2.5	5.7	.21
10/4/77	39	N	N	N	N	N	2.6	1.42	N
7	42	N	N	N	N	N	.67	4.3	N
11	46	N	N	N	N	N	1.84	3.4	.03
14	49	N	N	N	N	N	1.78	1.99	N
18	53	N	N	N	N	N	.73	1.74	N

TABLE 38 BROMOFORM DATA SHEET (ED3) DISTRIBUTION SAMPLES

Date	Day	Sample 17	Sample 17 + 4					
9/11/77	6	4.2	4.2					
8	13	13.6	7.8					
15	20	6.7	3.3					
22	27	1.64	9.3					
29	34	1.68	4.5					
10/6/77	41	3.9						
13	48	3.7						

TABLE 39 BROMOFORM DATA SHEET (ED3) (AGED 2 DAYS)

Date	Day	Sample 11 + 2	Sample 13 + 2	Sample 15 + 2				
8/26/77	0	4.8	1.93	10.9				
9/2/77	7	12.7	10.2	3.7				
9/9/77	14	3.5	18.6	10.5				
9/16/77	21	.80	1.81	6.6				
9/23/77	28	2.3	10.6	N				
9/30/77	35	N	9.1	N				
10/7/77	42	4.1	9.0	.61				

TABLE 40 p-CHLOROTOLUENE DATA SHEET (ED3)

Date	Day	Sample 1	Sample 3	µg/1 Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	.09	N	N	N	N	N	N	N
30	4	.07	N	N	.27	.28	N	N	N
9/2/77	7	.19	N	N	.34	.18	N	N	N
6	11	.34	.36	N	N	N	N	N	N
9	14	N	N	1.74	N	N	1.09	N	N
13	18	.45	.22	N	N	N	N	1.02	N
16	21	.40	N	N	N	.67	N	.84	N
20	25	1.49	1.07	.37	.29	.17	.49	N	N
23	28	N	N	N	1.42	.12	.53	N	N
27	32	N	N	N	N	N	1.27	N	1.91
30	35	N	N	N	.17	.80	N	N	N
10/4/77	39	N	11.2	N	N	N	N	N	N
7	42	N	.26	N	N	N	N	N	N
11	46	.87	.25	.09	N	N	N	N	N
14	49	N	N	N	N	.19	N	N	N
18	53	N	N	N	N	N	N	N	N

TABLE 41 m-DICHLOROBENZENE, p-DICHLOROBENZENE AND o-DICHLOROBENZENE DATA SHEET (ED3)

		μg/l							
Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/11	0	.64	.28	.25	.58	.86	.38	1.25	N
30	4	.52	.20	.19	.51	.36	.34	.88	N
9/2/77	7	.19	.24	N	1.08	.46	.40	.29	N
6	11	1.38	.23	.39	.13	.04	.59	.07	N
9	14	.60	.42	.93	.77	.43	.25	4.8	N
13	18	1.49	1.03	.58	.48	.29	.51	.57	N
16	21	1.84	1.07	.89	.62	.29	.36	.42	N
20	25	.62	.65	.45	.06	.25	.15	N	N
23	28	.47	.82	.28	.37	.94	.26	.83	N
27	32	2.0	2.5	1.15	1.42	1.70	N	1.1	N
30	35	.72	1.40	4.3	.92	1.10	.33	.94	.31
10/4/77	39	1.70	.33	1.40	.58	.54	.55	.19	.62
7	42	2.5	1.23	.69	.15	N	N	.32	N
11	46	1.20	1.40	1.41	.01	.81	.25	.46	N
14	49	.42	.09	1.23	1.20	.31	N	.05	N
18	53	.23	N	N	N	N	N	N	.14

TABLE 42   INSTANTANEOUS THM (ED3)

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13
				μg/l				
8/26/77	0	.45	19.3	N	2.12	10.9	108	38.0
30	4	N	0.04	1.863	.80	3.56	137	133.1
9/2/77	7	N	N	N	3.933	3.603	140	124.2
6	11	N	.26	N	0.04	4.26	122	161.9
9	14	N	N	.36	12.2	4.79	98.7	159.6
13	18	N	N	N	1.89	2.113	90.3	124.0
16	21	N	N	N	1.46	3.38	135.5	97.6
20	25	1.08	.26	N	1.91	2.52	131.4	226.6
23	28	N	N	N	1.86	4.07	114.1	221.5
27	32	N	N	N	1.42	3.42	134.4	184.6
30	35	1.52	N	N	6.06	3.52	147.1	204.1
10/4/77	39	N	.08	.18	3.46	3.18	132.9	221.1
7	42	N	N	N	.17	1.04	124.35	189.5
11	46	N	N	.003	1.22	2.71	177.4	163.13
14	49	N	N	.16	.98	2.58	130.6	206.2
18	53	N	N	N	N	2.2	121.2	195.06

TABLE 43 TTHM (ED3)

µg/l

Date	Day	Sample 15	Sample 15 + 2	Sample 13 + 2	Sample 17	Sample 17 + 4	Sample 11 + 2	Sample 16
8/26/77	0	.41	27.5	230	300	-	279	25
30	4	1.07	-	-	-	382	-	48
9/2/77	7	.96	67.2	318	298	-	233	143
6	11	2.87	-	-	-	362	-	240
9	14	N	185.3	354.7	322	-	281.5	303
13	18	24.0	-	-	-	468.8	-	285
16	21	56.1	130.8	307.8	242.3	-	216	220
20	25	81.5	-	-	-	448	-	406
23	28	65.5	239.8	339	246.6	-	270.7	-
27	32	79.0	-	-	-	409.4	-	356
30	35	94.4	117.3	339.2	198.8	-	245.3	364
10/4/77	39	94.0	-	-	-	-	-	288
7	42	92.2	187.4	313.2	218.5	-	259.89	380
11	46	93.0	-	-	-	-	-	285
14	49	109.74	-	-	-	-	-	303
18	53	112.2	-	-	-	-	-	312

TABLE 44 TERMINAL THM (ED3)

Date	Day	Sample 2 (μg/l)	Sample 4 (μg/l)	Sample 6 (μg/l)	Sample 8 (μg/l)	Sample 10 (μg/l)	Sample 12 (μg/l)	Sample 14 (μg/l)
8/26/77	0	491	151	107	506	88	412	286
30	4	729	173	98	545	195	397	296
9/2/77	7	563	220	158	382	207	468	375
6	11	728	263	171	358	236	394	375
9	14	676	270	175	359	260	379	393
13	18	607	419	276	431	281	466	416
16	21	523	363	205	360	239	365	332
20	25	610	335	318	422	372	429	423
23	28	-	-	261	513	251	-	-
27	32	624	296	371	423	391	307	398
30	35	558	410	382	399	332	387	427
10/4/77	39	637	412	411	378	373	392	415
7	42	588	381	361	349	340	414	455
11	46	523	354	344	328	332	418	392
14	49	417	315	319	271	210	326	370
18	53	538	422	684	536	361	249	303

TABLE 45 THM FP (ED3)

μg/l

Date	Day	Sample 1	Sample 3	Sample 5	Sample 7	Sample 9	Sample 11	Sample 13	Sample 15
8/26/77	0	490	151	107	466	78	304	298	25
30	4	729	173	98	545	191	260	164	45
9/2/77	7	563	220	158	379	205	328	251	142
6	11	728	263	171	357	231	272	213	238
9	14	676	270	175	347	255	282	233	↓ 302
13	18	607	↓ 419	↓ 276	428	279	377	290	261
16	21	523	363	205	359	236	230	-	164
20	25	609	335	318	420	368	298	196	325
23	28	-	-	261	319	247	-	-	-
27	32	624	296	371	422	388	242	272	278
30	35	557	410	382	393	329	241	223	265
10/4/77	39	637	412	411	375	370	261	193	193
7	42	588	381	361	349	340	290	266	288
11	46	523	354	344	327	329	245	231	192
14	49	417	315	319	349	268	201	163	194
average*		591	365	325	389		274	230	246

* average of total column of data or from arrow (↓)

TYPING GUIDE SHEET

TABLE 46 TOC DATA SHEET (ED3)

		SAMPLE 1		SAMPLE 3		SAMPLE 5		SAMPLE 7		SAMPLE 9		SAMPLE 11		SAMPLE 13		SAMPLE 15	
DAY	DATE	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC
4	8/30/77	9.0	272	1.9	218	1.5	212	6.9	181	1.8	80	6.3	168	2.3	142	1.5	122
11	9/6/77	12.6	268	3.7	274	4.1	175	7.9	83	6.3	10	10.1	197	5.6	166	7.0	168
18	9/13/77	7.9	202	5.5	128	2.0	70	5.3	28	2.5	10	6.1	169	2.8	137	4.3	82
25	9/20/77	8.7	177	7.8	14	2.8	10	5.9	11	3.2	9	5.7	173	3.3	155	4.3	6
32	9/27/77	9.0	246	8.4	249	4.9	198	6.2	134	4.2	12	6.1	179	4.1	150	4.9	15
39	10/4/77	7.9	212	7.5	157	6.8	99	5.6	13	4.5	11	5.1	176	4.3	91	4.3	11
46	10/11/77	9.1	201	8.6	9	8.2	10	6.5	13	5.4	13	6.1	166	5.4	23	5.2	13
53	10/18/77	8.4	250	8.1	222	7.7	209	5.7	13	5.2	14	5.7	207	5.0	85	4.8	12

EPA-287 (Cin.) (4-76)

EXPERIMENTAL DESIGN 4

Specific Data on

Backwash Dates and Time,

pH, Turbidity, Color,

Chlorine (Free and Total), and

TOC

TABLE 1 VOLUMES AND BACKWASH TIMES (ED4)

Volumes & Backwash Times,
in gal. in hours

Date	Column 1			Column 2			Column 3			Column 4		
	Time off	Time BW	Total Volume	Time off	Time BW	Total Volume	Time off	Time BW	Total Volume	Time off	Time BW	Total Volume
11/1/77	Start up 7:45 a.m. EST											
11/1	1	1	15.2	1.3	1	14.9	1.6	1	14.6	.0	1	14.2
11/2	.3	.2	38.9	.3	.2	38.6	.3	.2	38.3	.3	.2	37.9
11/3			62.9			62.6			62.3			61.9
11/4	sampling		86.9	0.3	0	86.3	0.6	0	85.7	1.0	0	84.9
11/5			110.9			110.3			109.7			108.9
11/6			134.9			134.3			133.7			132.9
11/7	.4	.4	158.5	.4	.4	157.9	.4	.4	157.3	.4	.4	156.5
11/8			182.5	.2		181.7	.5		180.8	.8		179.7
11/9			206.5			205.7			204.8			203.7
11/10	1	1	229.5	1	1	228.7	1	1	227.8	1	1	226.7
11/11			253.5	.2		252.5	.5		251.3	.8		249.9
11/12			227.5			276.5			275.3			273.9
11/13			301.5			300.5			299.3			297.9
11/14	.3	.3	352.2	.3	3	324.2	.3	.3	323.0	.3	.3	321.6
11/15			349.2	.2		348.0	.5		346.5	.8		344.8
11/16			373.2			372.0			370.5			368.8
11/17	1	.4	396.2	1	.4	395.0	1	.4	393.5	1	.4	391.8
11/18			420.2	0.2		418.8	.5		417.0	.8		415.0
11/19			444.2			442.8			441.0			439.0
11/20			468.2			466.8			465.0			463.0
11/21			492.2	1		489.8			487.0	3		483.0
11/22			516.2	0.2		513.6	0.5		510.5	0.8		506.2
11/23			540.2			537.6			534.5			530.2
11/24			564.2			561.6			558.5			554.2
11/25			588.2	0.2		585.4	0.5		582.0	0.8		577.4
11/26			612.2			609.4			606.0			601.4
11/27			636.2			633.4			630.0			625.4
11/28			660.2			657.4			654.0			649.4
11/29			684.2	0.3		681.1	0.6		677.4	0.9		672.5
11/30			708.2			705.1			701.4			696.5
12/1	1.5	0.3	730.7	1.5	0.3	727.6	1.5	0.3	723.9	1.5	0.3	719.0
12/2			754.7			751.6			747.9			743.0
12/3			778.7			775.6			771.9			767.0

(continued)

TABLE 1 (continued)

Volumes and Backwash Times,
in gal. in hours

	Column 1			Column 2			Column 3			Column 4		
	Time		Total	Time		Total	Time		Total	Time		Total
Date	off	BW	Volume	off	BW	Volume	off	BW	Volume	off	BW	Volume
12/4			802.7			799.6			795.9			791.0
12/5			826.7			823.6			819.9			815.0
12/6			850.7	0.3		847.3	0.6		843.3	0.9		838.1
12/7			*874.7			871.3			867.3			862.1
12/8	1.5	0.3	897.2	1.5	0.3	893.8	1.5		889.8	1.5	0.3	884.6
12/9			921.2	0.3		917.5	0.6		913.2	0.9		907.7
12/10			945.2			941.5			937.2			931.7
12/11			969.2			965.5			961.2			955.7
12/12			933.2			989.5			985.2			979.7
12/13			1017.2	0.3		1031.2	0.6		1008.6	0.9		1002.8
12/14			1041.2			1037.2			1032.6			1026.8
12/15			1065.2			1061.2			1056.6			1050.8
12/16			1089.2	0.3		1084.9	0.6		1080.0	0.9		1073.9
12/17			1113.2			1108.9			1104.0			1097.9
12/18			1137.2			1132.9			1128.0			1121.9
12/19			1161.2			1156.9			1152.0			1145.9
12/20			1185.2	0.3		1180.2	0.6		1175.4	0.9		1169.0
12/21			1209.2			1204.2			1199.4			1193.0
12/22			1233.2			1228.6			1223.4			1217.0
12/23			1257.2	0.3		1252.3	0.6		1246.8	0.9		1240.1
12/24			1281.2			1275.3			1270.8			1264.1
12/25			1305.2			1299.3			1294.8			1288.1
12/26			1329.2			1323.3			1318.8			1312.1
12/27			1353.2	0.3		1347.0	0.6		1342.2	0.9		1335.2
12/28			1377.2			1371.0			1366.2			1359.2
12/29			1401.2	0.3		1394.7	0.6		1389.6	0.9		1382.3
12/30			1425.2			1418.7			1413.6			1406.3
12/31			1449.2			1442.7			1437.6			1430.3
1/1/78			1473.2			1466.7			1461.6			1454.3
1/2			1497.2			1490.7			1485.6			1478.3
1/3			1521.2	0.3		1514.4	0.6		1509.0	0.9		1501.4
1/4			1545.2			1538.4			1533.0			1525.4
1/5			1569.2			1562.4			1557.0			1549.4
1/6			1593.2	0.3		1586.1	0.6		1580.4	0.9		1572.5

(continued)

TABLE 1 (continued)

Volumes and Backwash Times, in gal. in hours

Date	Column 1 Time off	Column 1 BW	Column 1 Total Volume	Column 2 Time off	Column 2 BW	Column 2 Total Volume	Column 3 Time off	Column 3 BW	Column 3 Total Volume	Column 4 Time off	Column 4 BW	Column 4 Total Volume
1/6/78			1593.2	0.3		1586.1	0.6		1580.4	0.9		1572.5
1/7			1617.2			1609.8			1604.4			1596.5
1/8			1641.2			1633.8			1628.4			1620.5
1/9			1665.2			1657.8			1652.4			1644.5
1/10			1689.2	0.4		1681.4	0.8		1675.6	2.8		1665.7
1/11			1713.2			1705.4			1699.6	.2		1689.5
1/12			1737.2			1729.4			1723.6			1713.5
1/13			1761.2	0.4		1753.0	0.8		1746.8	1.2		1736.3
1/14			1785.2			1777.0			1770.8			1760.3
1/15			1809.2			1801.0			1794.8			1784.3
1/16			1833.2			1825.0			1818.8			1808.3
1/17			1857.2	0.5		1848.5	1.0		1841.8	1.5		1831.8
1/18			1881.2			1872.5			1865.8			1855.8
1/19			1905.2			1896.5			1889.8			1879.8
1/20			1929.2	0.4		1920.1	0.8		1913.0	1.2		1902.6
1/21			1953.2			1944.1			1937.0			1926.6
1/22			1977.2			1968.1			1961.0			1950.6
1/23			2001.2			1992.1			1985.0			1974.6
1/24			2025.2	0.4		2015.7	0.8		2008.2	1.2		1997.4
1/25			2049.2			2039.7			2032.2			2021.4
1/26			2073.2			2063.7			2056.2			2045.4
1/27			2097.2	0.3		2087.4	0.6		2079.6	0.9		2068.5
1/28			2121.2			2111.4			2103.6			2092.5
1/29			2145.2			2135.4			2127.6			2116.5
1/30			2169.2			2159.4			2151.6			2140.5
1/31			2193.2	0.4		2183.0	0,6		2175.0	0.9		2163.6
2/1			2217.2			2207.0			2199.0			2187.6
2/2			2241.2			2231.0			2223.0			2211.6
2/3			2265.2	0.3		2254.7	0.6		2246.4	0.9		2234.7
2/4			2289.2			2278.7			2270.4			2258.7
2/5			2313.2			2302.7			2294.4			2282.7
2/6			2337.2			2326.7			2318.4			2306.7
2/7			2361.2	0.4		2350.3	0.8		2341.6	1.3	0.1	2329.4

(continued)

TABLE 1 (continued)

Volumes and Backwash Times, in gal. in hours

1978 Date	Column 1 Time off	Column 1 BW	Column 1 Total Volume	Column 2 Time off	Column 2 BW	Column 2 Total Volume	Column 3 Time off	Column 3 BW	Column 3 Total Volume	Column 4 Time off	Column 4 BW	Column 4 Total Volume
2/8			2385.2			2374.6			2365.6			2353.4
2/9			2409.2			2398.3			2389.6			2377.4
2/10			2433.2			2422.3			2413.6			2401.4
2/11			2457.2			2446.3			2473.6			2425.4
2/12			2481.2			2470.3			2461.6			2449.4
2/13	0.5	0.2		0.8	0.1	2493.5	1.0	.1	2484.6	1.3	.1	2472.1
2/24			2528.7	0.4		2517.1	0.8		2507.8	1.2		2494.9
2/15			2552.7			2541.1			2531.8			2518.9
2/16			2576.7	0.7		2564.4	0.7		2555.1	0.7		2541.2
2/17			2600.7	.3		2588.1	.6		2578.5	.9		2564.3
2/18			2624.7			2612.1			2602.5			2588.3
2/19			2648.7			2636.1			2626.5			2612.3
2/20			2672.7			2660.1			2650.5			2636.3
2/21			2696.7	.4		2683.7	.8		2673.7	1.2		2659.1
2/22			2720.7			2707.7			2697.7			2683.1
2/23			2744.7			2731.7			2721.7			2707.1
2/24			2768.7	.3		2755.4	.6		2745.1	1.0		2730.1
2/25			2792.7			2779.4			2769.1			2754.1
2/26			2816.7			2803.4			2793.1			2778.1
2/27			2840.7			2827.4			2817.1			2802.1
2/28			2864.7	.3		2851.1	.6		2840.5	.9		2825.2
3/1			2888.7			2875.1			2864.5			2849.2
3/2			2912.7			2899.1			2888.5			2873.2
3/3			2936.7	.1		2923.0	.2		2912.3	.3		2896.9
3/4			2960.7			2947.0			2936.3			2920.9
3/5			2984.7			2971.0			2960.3			2944.9
3/6			3008.7			2995.0			2984.3			2968.9
3/7			3032.7			3019.0			3008.3			2992.9
3/8			3056.7			3043.0			3032.3			3016.9
3/9			3080.7	.2		3066.8		.4	3055.9	.6		3040.3
3/10			3104.7	.2		3090.6		.4	3079.5	.6		3063.7
3/11			3128.7			3114.6			3103.5			3087.7
3/12			3152.7			3138.6			3127.5			3111.7
3/14			3176.7			3162.6			3151.5			3135.7

(continued)

TABLE 1 (continued)

Volumes and Backwash Times,
in gal. in hours

1978 Date	Column 1 Time off	Column 1 BW	Column 1 Total Volume	Column 2 Time off	Column 2 BW	Column 2 Total Volume	Column 3 Time off	Column 3 BW	Column 3 Total Volume	Column 4 Time off	Column 4 BW	Column 4 Total Volume
3/15			3200.7			3186.6			3175.5			3159.7
3/16			3224.7			3210.6			3199.5			3183.7
3/17			3248.7			3234.6			3223.5			3207.7
3/18			3272.7			3258.6			3247.5			3231.7
3/19			3296.7			3282.6			3271.5			3255.7
3/20			3320.7			3306.6			3295.5			3279.7
3/21	.5		3344.2	.5	.3	3330.1	.5	.2	3379.0	.5	.2	3303.2
3/22			3368.2			3354.1			3343.0			3327.2
3/23			3392.2			3378.1			3367.0			3351.2
3/24			3416.2			3402.1			3391.0			3375.2
3/25			3440.2			3426.1			3415.0			3399.2
3/26			3464.2			3450.1			3439.0			3423.2
3/27			3488.2			3474.1			3463.0			3447.2
3/28			3512.2			3498.1			3487.0			3471.2
3/29			3536.2			3522.1			3511.0			3495.2
3/20			3560.2			3546.1			3535.0			3519.2
3/31			3584.2			3570.1			3559.0			3543.2
4/1			3608.2			3594.1			3583.0			3567.2
4/2			3632.2			3618.1			3607.0			3591.2
4/3			3656.2			3642.1			3631.0			3615.2
4/4			3680.2			3666.1			3655.0			3639.2
4/5	2	.3	3702.2	2	14	3688.1	2	.5	3677.0	2	.5	3661.2

TABLE 2 pH DATA (ED4)

pH Data Initial

Date	1 Raw	7 H.T.Effl.	11 Finished	19 Col. 1 30"	21 Col. 2 60"	23 Col. 3 90"	25 Col. 4 120"	17 M. Lakes
11/ 1/77	7.15	9.95	9.35	9.55	9.10	9.05	8.65	
11/3								9.05
11/4	7.20	9.65	9.05	8.95	8.95	9.05	8.80	
11/8	7.15	10.05	8.95	8.80	8.85	8.80	8.60	
11/10								8.95
11/11	7.15	9.90	8.90	8.75	8.75	8.85	8.90	
11/15	7.15	10.10	9.25	8.75	8.45	8.40	8.35	
11/17								8.80
11/18	7.20	9.90	9.15	8.95	8.65	8.60	8.35	
11/22	7.20	9.70	8.90	8.70	8.50	8.45	8.45	
11/25	7.15	9.60	8.15	8.40	8.60	8.65	8.60	
11/29	7.15	9.80	9.05	8.60	8.50	8.45	8.45	
12/01								9.05
12/02	7.15	9.90	9.25	8.70	8.55	8.55	8.45	
12/06	7.20	9.75	9.05	8.90	8.90	8.85	8.80	
12/08								8.95
12/09	7.15	9.75	9.25	8.75	8.55	8.60	8.65	
12/13	7.15	9.70	9.10	8.90	8.85	8.75	8.70	
12/15								9.05
12/16	7.15	9.55	8.95	8.70	8.55	8.50	8.50	
12/20	7.20	11.20	9.55	8.95	8.95	8.80	8.70	
12/22								8.85
12/23	7.15	9.70	9.00	8.70	8.60	8.60	8.60	
12/27	7.20	9.80	9.55	8.75	8.75	8.75	8.65	
12/29								8.65
12/30	7.20	8.15	8.00	7.85	7.95	8.15	8.30	
1/03/78	7.15	10.65	10.05	8.95	8.70	8.60	8.40	
1/05								8.95
1/06	7.20	9.95	8.85	8.45	8.45	8.45	8.55	
1/10	7.20	10.40	9.70	9.12	8.75	8.60	8.50	
1/12								8.80
1/13	7.20	10.10	9.25	8.35	8.35	8.45	8.45	
1/17	7.20	10.10	9.05	8.65	8.55	8.50	8.45	
1/19								8.95
1/20	7.20	10.10	8.45	8.55	8.45	8.45	8.35	
1/23	7.20	10.05	9.30	8.90	8.70	8.55	8.40	
1/25								9.10
1/27	7.15	9.60	8.55	8.55	8.50	8.45	8.40	
1/31	7.15	9.95	8.85	8.65	8.60	8.55	8.60	
2/02								8.70
2/03	7.15	10.15	9.25	8.80	8.70	8.65	8.55	
2/07	7.15	10.10	9.05	8.70	8.65	8.65	8.60	
2/09								9.15
2/10	7.15	9.75	9.30	8.90	8.75	8.65	8.55	
2/14	7.20	9.90	9.50	8.75	8.70	8.70	8.65	
2/16								9.30

(continued)

TABLE 2 (continued)

pH Data, Initial

Date	1 Raw	7 H.T.Effl.	11 Finished	19 Col. 1	21 Col. 2	23 Col. 3	25 Col. 4	17 M. Lakes
2/17/78	7.15	9.95	9.25	9.05	8.85	8.75	8.70	
2/21	7.10	9.85	9.35	9.05	8.95	8.90	8.85	
2/23								8.95
2/24	7.15	9.85	9.00	8.85	8.80	8.85	8.80	
2/28	7.20	9.85	9.15	8.90	8.80	8.75	8.70	
3/3	7.20	9.80	9.35	9.50	9.00	8.85	8.80	

TABLE 3 TURBIDITY DATA, NTU (ED4)

Turbidity Data, as NTU Initial

Date	1 Raw	7 H.T.Effl.	11 Finished	19 Col. 1	21 Col. 2	23 Col. 3	25 Col. 4	27 M. Lakes
11/01/77	0.62	2.00	0.72	0.31	0.15	0.23	6.70	
11/03								0.83
11/04	1.30	2.60	0.86	0.34	0.13	0.25	4.50	
11/08	0.38	3.20	0.66	0.19	0.12	0.18	0.65	
11/10								0.29
11/11	1.00	2.10	0.42	0.23	0.14	0.18	0.42	
11/15	0.69	1.40	0.34	0.26	0.14	0.17	0.32	
11/17								0.67
11/18	0.44	3.00	0.32	0.19	0.25	0.15	0.17	
11/22	0.73	2.00	0.25	0.21	0.21	0.17	0.30	
11/25	0.65	2.90	0.22	0.17	0.15	0.18	0.22	
11/29	1.60	1.10	0.22	0.18	0.16	0.18	0.21	
12/01								1.30
12/02	0.39	2.30	0.27	0.17	0.22	0.20	0.23	
12/06	1.40	1.60	0.64	0.18	0.23	0.21	0.15	
12/08								0.33
12/09	0.55	4.80	0.26	0.15	0.19	0.17	0.16	
12/13	0.26	2.10	0.43	0.14	0.20	0.14	0.14	
12/15								0.71
12/16	0.63	2.60	0.21	0.13	0.20	0.16	0.32	
12/20	0.40	2.90	0.52	0.16	0.21	0.19	0.13	
12/22								0.99
12/23	0.39	3.10	0.18	0.14	0.17	0.14	0.11	
12/27	0.29	1.60	0.19	0.18	0.23	0.16	0.16	
12/29								0.65
12/30	1.70	1.10	0.18	0.15	0.19	0.17	0.15	
1/03/78	0.32	0.54	0.15	0.13	0.23	0.18	0.17	
1/05								0.69
1/06	2.20	27*	0.12	0.17	0.18	0.15	0.12	
1/10	1.00	27*	0.11	0.15	0.22	0.30	0.15	
1/12								1.90
1/13	0.8[illegible]	1.1*	0.14	0.21	0.26	0.31	0.19	
1/17	0.57	2.8*	0.16	0.16	0.19	0.17	0.33	
1/19								0.62
1/20	0.99	2.60	0.12	0.13	0.25	0.27	0.21	
1/24	0.60	1.70	0.14	0.14	0.13	0.18	0.24	
1/26								0.73
1/27	0.33	7.20	0.37	0.22	0.25	0.18	0.25	
1/31	0.34	1.80	0.40	0.20	0.20	0.18	0.15	
2/02								0.78
2/03	0.34	5.20	0.25	0.20	0.21	0.18	0.17	
2/07	0.32	10.00	0.18	0.20	0.14	0.14	0.16	
2/09								2.10
2/10	0.31	6.00	0.13	0.20	0.18	0.14	0.15	
2/14	1.30	7.50	0.17	0.16	0.18	0.13	0.15	
2/16								1.20
2/17	0.55	8.30	0.19	0.18	0.18	0.16	0.16	
2/21	0.30	5.50	0.23	0.34	0.15	0.22	0.17	
2/23								1.40
2/24	0.87	9.20	0.35	0.54	0.22	0.14	0.17	
2/28	0.52	2.10	0.42	0.47	0.18	0.18	0.22	
3/3	0.63	5.30	0.57	0.37	0.20	0.22	0.19	

*grab samples from H.T. Effluent flume

TABLE 4 CHLORINE RESIDUALS (ED4)

Chlorine Residuals, ppm Initial

Date	11 Finish		19 Col. 1		21 Col. 2		23 Col. 3		25 Col. 4		17 M. Lakes	
	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total
11/01/77	2.25	3.25	0	0.05	0	0.05	0	0.05	0	<0.05		
11/03											0.10	0.55
11/04	1.60	2.30	0	0.05	0	0.05	0			<0.05		
11/08	1.80	2.60	0	0.05	0	0.05	0	0.05	0	<0.05		
11/10											0.05	0.50
11/11	1.60	2.40	0	0.10	0	0.05	0	0.05	0	<0.05		
11/15	1.20	2.10	0	0.10	0	0.05	0	0.05	0	<0.05		
11/17											0.05	0.40
11/18	2.00	2.65	0	0.10	0	0.05	0	0.05	0	<0.05		
11/25	1.35	1.85	0	0.15	0	0.05	0	0.05	0	<0.05		
11/29	1.75	2.40	0	0.15	0	0.05	0	0.05	0	<0.05		
12/01											0.05	0.45
12/	2.00	2.65	0	0.15	0	0.05	0	0.05	0	<0.05		
12/	1.90	2.50	0	0.20	0	0.05	0	0.05	0	<0.05		
12/											0.10	0.50
12/09	1.40	2.10	0	0.20	0	0.05	0	0.05	0	<0.05		
12/13	1.95	2.40	0	0.15	0	0.05	0	0.05	0	<0.05		
12/15											0.05	0.40
12/16	1.70	2.10	0	0.15	0	0.05	0	0.05	0	<0.05		
12/20	3.30	6.55	0	0.15	0	0.05	0	0.05	0	<0.05		
12/22											0.05	0.50
12/23	2.40	2.90	0	0.20	0	0.05	0	0.05	0	<0.05		
12/27	0.20	2.70	0	0.15	0	0.05	0	0.05	0	<0.05		
12/29											0.05	0.45
12/30	1.85	2.40	0	0.20	0	0.05	0	0.05	0	<0.05		
1/03/78	3.70	6.55	0	0.35	0	0.10	0	0.05	0	<0.05		
1/05											0.20	0.80
1/06	2.55	3.40	0	0.30	0	0.10	0	0.05	0	<0.05		
1/10	2.60	3.60	0	0.30	0	0.10	0	0.05	0	<0.05		
1/12											0.10	0.55
1/13	1.95	3.20	0	0.20	0	0.10	0	0.05	0	<0.05		
1/17	2.10	2.95	0	0.20	0	0.10	0	0.05	0	<0.05		
1/19											0.20	0.80
1/20	1.80	2.55	0	0.20	0	0.10	0	0.05	0	<0.05		
1/23	2.45	3.00	0	0.25	0	0.10	0	0.05	0	<0.05		
1/26											0.15	0.55
1/27	2.40	2.90	0	0.25	0	0.10	0	0.05	0	<0.05		
1/31	2.10	2.50	0	0.30	0	0.10	0	0.05	0	<0.05		
2/02											0.15	0.70
2/03	2.45	3.15	0	0.25	0	0.10	0	0.05	0	<0.05		
2/07	2.45	2.90	0	0.25	0	0.10	0	0.10	0	<0.05		
2/09											0.05	0.60
2/10	1.95	2.65	0	0.25	0	0.10	0	0.05	0	<0.05		
2/14	2.30	3.50	0	0.35	0.	0.10	0	0.05	0	<0.05		
2/16											0.05	0.60
2/17	2.35	3.05	0	0.30	0	0.15	0	0.05	0	<0.05		
2/21	2.25	2.75	0	0.35	0	0.15	0	0.05	0	<0.05		
2/23											0.10	0.55
2/24	2.60	3.15	0	0.30	0	0.15	0	0.10	0	<0.05		
2/28	2.30	3.05	0	0.35	0	0.15	0	0.10	0	<0.05		
3/03	1.40	3.50	0	0.45	0	0.15	0	0.10	0	<0.05		

TABLE 5 ONE- AND TWO-DAY AGED, SPIKED SAMPLES (ED4)

One- and Two-Day Aged, Spiked Samples in Serum Bottles

Chlorine residuals as ppm

Date Sampled	Date Tested	11 + 1			11 + 2			25 + 2		
		pH	Cl_2 residue		pH	Cl_2 residue		pH	Cl_2 residue	
			free	total		free	total		free	total
11/1/77	11/2/77	9.25	0.10	0.55	9.40	0.05	0.40	9.18	0.60	1.25
11/8	11/9&10	9.25	0.10	0.50	9.25	0.10	0.35	9.18	2.10	2.75
11/15	11/16	9.10	0.20	0.50	9.00	0.05	0.20	9.15	1.10	1.70
11/22	11/23	8.70	0.05	0.50	8.55	0	0.10	9.18	0.05	0.30
11/29	11/30	9.00	0.05	0.50	8.95	0.05	0.40	9.18	0.90	1.30
12/6	12/7&8	9.25	0.05	0.45	9.18	0.05	0.40	9.25	0.55	0.90
12/13	12/14&15	9.05	0.05	0.45	9.00	0.05	0.40	9.15	1.35	1.90
12/20	12/21&22	9.05	0.05	0.50	9.00	0.05	0.40	9.15	1.50	2.05
12/27	12/28&29	8.60	0.05	0.40	8.55	0	0.45	9.18	0.10	0.20
1/3/78	1/4 & 5	9.40	0.05	0.45	9.35	0.05	0.35	9.18	0.35	0.70
1/10	1/11&12	9.25	0.05	0.45	9.18	0.05	0.35	9.15	0.05	0.35
1/17	1/18&19	9.35	0.05	0.45	9.35	0.05	0.40	9.18	0.05	0.45
1/24	1/25&26	9.25	0.10	0.60	9.18	0.10	0.40	9.18	0.30	0.60
1/31	2/1 & 2	9.05	0.10	0.50	9.15	0.05	0.15	9.18	0.80	1.25
2/7	2/8 & 9	9.10	0.10	0.50	8.80	0	0.30	9.12	0.90	1.20
2/14	2/15	9.52	0.15	0.55	9.50	0.10	0.30	9.15	0.10	0.25
2/21	2/22&23	9.15	0.45	1.30	9.15	0.05	0.35	9.15	0.05	0.20

(continued)

TABLE 5 (continued)

Date Sampled	Date Tested	23 + 2 pH	Cl_2 residue free	Cl_2 residue total	pH	free	total	pH	free	total
12/22	12/20	9.15	1.60	1.90						
12/27	12/29	9.18	0	0.30						
1/3	1/5	9.18	0	0.55						
1/6	killed									
1/10	1/12	9.15	0.05	0.35						
1/13	killed									
1/17	1/19	9.18	0.05	0.35						
1/20	killed									
1/24	1/26	9.18	0.05	0.20						
1/27	killed									
1/31	2/2	9.15	1.15	1.50						
2/3	killed									
2/7	2/9	9.10	0.20	0.35						
2/10	killed									
2/14	2/16	9.15	0.15	0.60						
2/17	killed									
2/21	2/23	9.15	0.10	0.25						
2/24	killed									

TABLE 6 SIX-DAY AGED, SPIKED SAMPLES (ED4)

Six-Day Aged, Spiked Samples

Six-Day Buffered and Chlorinated Samples

Chlorine Residual, ppm

DPD Titration - Free and Total

Date Sample	Date Tested	2 Raw In		8 H.T.Effl.		12 Finish		20 Col.1		22 Col.2		24 Col.3		26 Col.4	
		Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total
11/1/77	11/7	14.7	15.6	18.6	20.1	25.2	26.4	28.2	29.4	28.2	30.0	27.9	29.1	27.9	29.1
11/4	11/10	21.3	22.2	22.8	23.7	30.0	32.1	32.4	33.9	33.6	35.1	34.8	36.3	23.7	25.8
11/8	11/14	25.2	27.6	28.8	30.9	36.6	40.2	40.2	44.4	42.6	45.6	42.6	46.2	42.6	45.0
11/11	11/17	23.4	24.3	23.4	24.9	33.9	35.7	22.5	25.8	29.1	30.6	29.7	32.4	33.6	35.7
11/15	11/21	15.3	17.7	18.3	20.7	26.7	28.8	28.8	30.9	27.9	30.6	30.6	33.0	26.7	28.8
11/18	11/30	13.5	15.3	17.1	18.3	24.3	25.5	24.9	26.7	26.4	28.2	28.8	30.6	29.4	31.2
11/22	11/28	6.0	9.6	3.9	8.7	7.8	11.4	4.2	9.9	5.7	10.8	5.1	10.5	8.4	12.3
11/25	12/1	13.5	14.7	13.5	14.7	18.3	19.5	20.7	21.9	21.0	22.5	21.9	23.4	22.2	23.4
11/29	12/5	12.6	13.5	11.1	12.6	19.5	20.7	17.7	18.9	17.7	19.5	18.6	19.5	18.0	18.9
12/2	12/8	14.1	15.9	10.2	11.7	20.1	21.3	18.6	20.1	19.5	21.0	21.3	22.8	20.4	22.2
12/6	12/12	16.2	17.7	17.4	18.9	19.2	20.4	21.0	22.2	20.4	26.9	21.6	23.1	23.4	24.6
12/9	12/15	16.2	17.1	15.0	15.6	21.9	23.1	20.1	21.0	20.4	21.6	21.0	21.9	21.9	22.8
12/13	12/19	12.0	12.9	13.8	15.0	18.0	18.9	18.6	19.5	21.0	21.9	17.4	18.3	20.4	21.6
12/16	12/22	12.3	13.2	13.8	15.0	18.9	20.1	19.8	21.0	5.1	6.3	16.5	17.4	18.6	19.5
12/20	Holiday														
12/23	12/29	13.2	14.4	15.3	16.5	18.3	18.9	18.6	19.8	16.8	19.2	20.1	21.3	20.1	21.3
12/27	Holiday														
12/30	1/5/78	8.4	9.6	6.3	7.5	13.5	14.4	11.7	12.6	12.9	13.8	14.1	15.0	12.9	13.8
1/3/78	1/9	10.5	11.4	14.1	15.0	14.7	15.9	14.7	15.3	14.7	15.3	16.5	17.1	16.8	17.4
1/6	1/12	7.2	8.1	9.0	9.6	13.8	14.4	12.6	13.2	14.4	15.0	15.0	15.9	14.7	15.3
1/10	1/16	8.7	9.3	11.1	11.7	13.8	15.0	14.1	15.3	14.1	15.0	15.6	16.5	14.1	15.0
1/13	1/19	7.8	8.7	3.9	4.8	11.4	12.3	9.3	10.2	12.3	13.2	10.5	11.4	11.7	12.6
1/17	1/23	6.3	7.5	17.1	17.7	4.8	5.7	9.3	9.9	11.1	11.7	9.9	10.8	10.5	11.1
1/20	1/26	9.0	10.5	8.7	9.6	9.3	11.7	10.2	11.4	11.4	12.6	9.9	11.1	12.6	13.8
1/24	1/30	10.8	12.3	14.4	15.9	13.2	15.0	12.3	13.8	11.1	12.3	12.0	13.2	11.4	12.6
1/27	2/2	15.0	16.8	9.9	11.1	6.3	8.1	12.0	12.9	11.7	12.6	13.2	13.8	12.0	12.6
1/31	2/6	7.5	8.4	7.8	8.7	12.3	13.2	11.4	12.3	12.0	12.9	11.7	12.6	10.5	11.7
	2/9	6.6	7.5	0	.90	10.8	12.0	9.0	9.9	9.6	10.5	10.2	11.1	11.1	11.7
2/7	2/13	6.0	7.2	7.5	8.7	10.5	11.7	10.2	11.1	11.4	12.6	10.5	11.7	11.7	12.6
2/10	2/16	10.5	11.7	9.3	10.2	11.4	12.3	9.0	10.2	11.4	12.3	12.3	13.2	10.8	11.7
2/14	2/20	10.5	12.3	9.6	10.8	13.5	14.7	9.9	11.4	10.8	11.7	12.3	13.2	12.0	13.2
2/17	2/23	9.6	10.5	7.5	8.7	13.8	15.0	3.3	3.9	10.5	11.7	12.3	13.5	12.0	12.6
2/21	2/27	11.4	12.6	9.6	11.1	12.0	13.5	11.4	12.6	10.8	12.6	12.0	13.2	10.8	12.6
2/24	3/2	9.0	11.4	8.1	10.5	16.8	19.5	9.3	11.7	10.2	12.3	9.9	12.3	9.9	12.3

TABLE 7 SIX-DAY AGED, SPIKED SAMPLES (ED4)

Six-Day Aged, Spiked Samples

pH Data Six-Day Buffered and Chlorinated Samples

Date Sampled	Date Tested	2 Raw	8 H.T.Effl	12 Finished	20 Col. 1	22 Col. 2	24 Col. 3	26 Col. 4
11/01/77	11/07/77	9.00	9.05	9.05	9.05	9.05	9.05	9.05
11/04	11/10	9.05	9.10	9.05	9.05	9.05	9.05	9.10
11/08	11/14	9.00	9.05	9.05	9.05	9.05	9.05	9.05
11/11	11/17	9.00	9.05	9.05	9.05	9.05	9.05	9.05
11/15	11/21	9.00	9.05	9.05	9.05	9.05	9.05	9.05
11/18	11/30	9.00	9.05	9.05	9.10	9.10	9.10	9.10
11/22	11/28	9.00	9.10	9.10	9.10	9.10	9.10	9.10
11/25	12/01	9.05	9.15	9.10	9.10	9.10	9.10	9.10
11/28	12/05	9.05	9.15	9.12	9.12	9.15	9.15	9.15
12/02	12/08	9.18	9.18	9.15	9.18	9.15	9.18	9.18
12/06	12/12	9.05	9.10	9.10	9.10	9.10	9.10	9.10
12/09	12/15	9.00	9.05	9.05	9.05	9.05	9.05	9.05
12/13	12/19	9.00	9.05	9.05	9.05	9.00	9.05	9.05
12/16	12/22	9.00	9.05	9.05	9.05	9.05	9.05	9.05
12/20	Holiday							
12/23	12/29	9.00	9.10	9.05	9.05	9.10	9.10	9.10
12/27	Holiday							
12/30	1/05/78	9.05	9.15	9.10	9.10	9.10	9.10	9.15
1/0378	1/09	9.05	9.15	9.15	9.15	9.15	9.15	9.15
1/06	1/12	9.00	9.10	9.10	9.05	9.05	9.10	9.10
1/10	1/16	9.05	9.10	9.10	9.10	9.10	9.10	9.10
1/13	1/19	9.05	9.15	9.10	9.10	9.10	9.10	9.10
1/17	1/23	9.05	9.10	9.10	9.10	9.10	9.10	9.10
1/20	1/26	9.05	9.15	9.15	9.15	9.15	9.15	9.15
1/24	1/30	9.05	9.10	9.10	9.10	9.10	9.10	9.10
1/27	2/02	9.05	9.15	9.10	9.15	9.12	9.12	9.12
1/31	2/06	9.05	9.15	9.15	9.15	9.15	9.15	9.15
2/03	2/09	9.00	9.15	9.10	9.10	9.10	9.05	9.10
2/07	2/13	9.05	9.12	9.12	9.12	9.10	9.10	9.12
2/10	2/16	9.02	9.12	9.10	9.12	9.10	9.10	9.10
2/14	2/21	9.00	9.05	9.05	9.05	9.05	9.05	9.05
2/17	2/23	9.05	9.10	9.10	9.10	9.10	9.10	9.10
2/21	2/27	9.00	9.10	9.10	9.10	9.12	9.10	9.12
2/24	3/02	9.00	9.10	9.05	9.05	9.05	9.05	9.05

TABLE 8 SUMMARY OF PREVIOUS TABLES (ED4)

SUMMARY OF ROUTINE DATA

Sample no.	Sample	TURBIDITY (NTU) max.	min.	ave.	pH max.	min.	ave.
1	Raw	2.2	0.26	0.71	7.2	7.1	7.2
7	H.T. Effl.	27	0.54	4.6	11.2	8.15	9.9
11	Finished	0.86	0.11	0.32	10.05	8.00	9.1
19	Column 1 (2.5 ft. of GAC)	0.54	0.13	0.22	9.55	7.85	8.8
21	Column 2 (5.0 ft. of GAC)	0.25	0.12	0.20	9.10	7.95	8.7
23	Column 3 (7.5 ft. of GAC)	0.31	0.13	0.18	9.05	8.15	8.9
25	Column 4 (10 ft. of GAC)	6.7	0.11	0.56	8.90	8.30	8.6
17	Red Road (Miami Lakes)	2.1	0.62	0.92	9.30	8.65	9.0
	CHLORINE RESIDUALS (ppm)	FREE			TOTAL		
11	Finished	3.70	0.20	2.05	6.55	1.85	3.00
19	Column 1 (2.5 ft. of GAC)	0	0	0	0.45	0.05	0.20
21	Column 2 (5.0 ft. of GAC)	0	0	0	0.15	0.05	0.10
23	Column 3 (7.5 ft. of GAC)	0	0	0	0.10	0.05	0.05
25	Column 4 (10 ft. of GAC)	0	0	0	0.05	0.05	0.05
17	Red Road (Miami Lakes)	0.20	0.05	0.10	0.80	0.40	0.55

(continued)

TYPING GUIDE SHEET

TABLE 8 (continued)

SUMMARY OF AGED SPIKED SAMPLES

Sample no.	Sample		CHLORINE RESIDUALS (ppm) FREE max.	min.	ave.	TOTAL max.	min.	ave.	pH max.	min.	ave.
11+1	Finished	1 day old	0.45	0.05	0.10	1.30	0.40	0.55	9.52	8.70	9.14
11+2	"	2 days old	0.10	0	0.05	0.45	0.10	0.35	9.5	8.55	9.10
23+2*	Col. 3	2 days old	1.60	0	0.34	1.90	0.20	0.65	9.18	9.10	9.16
25+2*	Col. 4	2 days old	2.10	0.05	0.65	2.75	0.20	1.00	9.25	9.12	9.18

* Samlpes 23+2 and 25+2 have 3 ml. of saturated borax buffer and 3 ppm chlorine added per serum bottle.

Sample no.	Sample		FREE max.	min.	ave.	TOTAL max.	min.	ave.	pH max.	min.	ave.
2**	Raw	aged 6 days	25.2	6.0	12.0	27.6	7.2	13.4	9.18	9.00	9.04
8**	H.T. Effl.	"	28.8	0	12.4	30.9	0.90	14.1	9.18	9.05	9.10
12**	Finished	"	36.6	4.8	16.9	40.2	5.7	18.4	9.15	9.05	9.10
20**	Column 1	"	40.2	3.3	16.1	44.4	3.9	17.6	9.18	9.05	9.10
22**	Column 2	"	42.6	5.1	16.7	45.6	6.3	18.4	9.15	9.00	9.10
24**	Column 3	"	42.6	5.1	17.7	46.2	10.5	19.1	9.18	9.05	9.10
26**	Column 4	"	42.6	8.4	17.6	45.0	11.1	18.9	9.18	9.05	9.10

** These even numbered samples have 3 to 5 ml. of saturated borax buffer added in order to maintain a pH of 9.1. Also 25 to 55 ppm chlorine is added to give approximately 10 ppm free chlorine residual six days later.

TYPING GUIDE SHEET

TABLE 9 RAINFALL DATA (PRIOR TO ED4)

OCT.	IN.								
19	0								
20	0								
21	.01								
22	.54								
23	.01								
24	.02								
25	.05								
26	0								
27	0								
28	0								
29	0								
30	0								
31	0								

TABLE 10 RAINFALL DATA (ED4)

NOV.	IN.	DEC.	IN.	JAN.	IN.	FEB.	IN.	MAR.	IN.
1	0	1	0	1	tr.	1	0	1	0
2	0	2	0	2	0.03	2	0	2	tr.
3	0	3	0	3	0.28	3	0	3	1.41
4	.37	4	0	4	tr.	4	0.19	4	0
5	.26	5	0	5	0	5	0.44	5	0
6	0	6	.76	6	0	6	0		
7	0	7	0	7	0	7	0		
8	0	8	0	8	0.30	8	0.52		
9	tr.	9	.68	9	tr.	9	tr.		
10	0	10	tr.	10	0	10	tr.		
11	0	11	0	11	0	11	0		
12	0	12	.09	12	0	12	0		
13	0	13	.05	13	0.29	13	0		
14	0	14	0	14	0	14	0		
15	tr.	15	.12	15	0	15	0		
16	0	16	0	16	0	16	tr.		
17	0	17	.57	17	0.04	17	0.49		
18	0	18	.14	18	0.04	18	1.23		
19	0	19	0	19	0.40	19	0.16		
20	0	20	0	20	0.52	20	0.13		
21	.09	21	0	21	0	21	0.28		
22	.04	22	0	22	0	22	0		
23	.14	23	0	23	0	23	0		
24	4.01	24	0	24	tr.	24	0		
25	0	25	.07	25	0.01	25	0		
26	0	26	.02	26	0.16	26	0		
27	0	27	0	27	0	27	0		
28	0	28	0	28	0	28	0		
29	.02	29	0	29	0				
30	.01	30	0	30	0				
		31	.05	31	0				

TABLE 11 CHLORIDES IN RAW WATER (PRIOR TO ED4)

OCT.	ppm								
19	57								
20	56								
21	57								
22	-								
23	-								
24	-								
25	59								
26	58								
27	59								
28	59								
29	-								
30	-								
31	58								

TABLE 12 CHLORIDES IN RAW WATER (ED4)

NOV.	ppm	DEC.	ppm	JAN.	ppm	FEB.	ppm	MAR.	ppm
1	59	1	60	1	-	1	63	1	62
2	59	2	61	2	-	2	60	2	60
3	58	3	-	3	-	3	62	3	61
4	59	4	-	4	-	4	-	4	-
5	-	5	62	5	63	5	-	5	-
6	-	6	61	6	63	6	63	6	63
7	58	7	60	7	-	7	62	7	60
8	57	8	62	8	-	8	59	8	62
9	58	9	63	9	60	9	61	9	63
10	-	10	-	10	63	10	61	10	61
11	-	11	-	11	62	11	-	11	-
12	-	12	-	12	64	12	-	12	-
13	-	13	60	13	67	13	63	13	61
14	56	14	-	14	-	14	61	14	62
15	56	15	-	15	-	15	59	15	62
16	59	16	-	16	64	16	60	16	61
17	59	17	-	17	65	17	62	17	66
18	57	18	-	18	63	18	-	18	-
19	-	19	62	19	65	19	-	19	-
20	-	20	61	20	63	20	-	20	62
21	58	21	60	21	-	21	67	21	63
22	58	22	63	22	-	22	67	22	63
23	58	23	60	23	64	23	62	23	64
24	-	24	-	24	63	24	-	24	-
25	-	25	-	25	60	25	-	25	-
26	-	26	-	26	61	26	-	26	-
27	-	27	60	27	62	27	62	27	63
28	58	28	60	28	-	28	62	28	62
29	57	29	61	29	-			29	61
30	59	30	-	30	66			30	64
		31	-	31	61			31	63

TABLE 13 VINYL CHLORIDE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	3.4	10.3	N	N	N	N	N
4	3	13.0	9.6	N	N	N	N	N
8	7	18.1	12.2	11.1	3.2	N	.13	.06
11	10	11.4	11.7	8.2	8.2	N	N	N
15	14	19.5	12.5	7.7	8.2	2.4	.17	N
18	17	13.5	10.3	N	19.0	6.2	2.4	N
22	21	14.2	10.7	9.0	N	3.5	.17	N
25	24	14.6	11.1	12.6	5.3	9.2	N	N
29	28	12.3	8.8	10.2	5.2	N	N	N
12/2/77	31	12.8	11.6	9.3	N	N	N	N
6	35	12.1	10.1	3.2	N	N	N	N
9	38	4.4	10.3	10.3	3.8	9.5	1.80	2.8
13	42	15.4	5.4	5.4	1.70	3.7	5.4	2.8
16	45	8.7	4.8	2.4	1.60	2.8	8.0	5.2
20	49	13.1	10.8	6.8	1.80	1.80	3.4	3.8
23	52	9.6	11.4	8.9	4.1	2.7	1.80	5.7
27	56	12.6	13.5	9.3	2.5	2.7	3.1	4.2
30	59	13.1	7.7	4.5	6.9	6.4	5.7	3.7
1/3/78	63	13.5	10.4	11.2	4.4	3.5	2.2	3.8
6	66	15.6	16.8	16.8	4.0	2.7	4.6	2.7
10	70	7.2	3.7	3.2	2.5	2.9	3.7	2.2
13	73	.48	3.5	.52	7.9	5.0	1.50	6.5
17	77	8.3	22.5	14.9	6.8	1.4	8.6	2.7
20	80	10.3	4.9	9.0	10.1	7.2	8.4	2.4

(continued)

TABLE 13 (continued)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
				μg/l				
24	84	13.7	7.6	7.2	5.2	4.3	2.3	4.5
27	87	N	.86	4.4	7.0	5.8	6.9	13.4
31	91	21.4	15.5	1.9	2.6	3.2	2.0	6.6
2/3/78	94	18.4	14.0	11.3	3.5	1.60	1.20	1.20
7	98	.77	10.5	8.8	.56	1.40	4.1	2.6
10	101	21.8	9.9	16.5	4.7	3.7	3.8	1.60
14	105	5.9	12.2	4.9	4.4	1.30	4.5	3.6
17	108	4.3	8.7	8.1	12.3	2.4	2.0	2.2
21	112	28.0	9.4	34.7	-	-	-	-
24	115	8.4	1.9	6.4	2.3	4.5	1.60	.84
28	119	50.6	9.5	17.9	7.0	.94	8.1	2.3
3/1/78	122	10.8	6.1	7.5	10.2	7.2	3.8	9.5

TABLE 14 METHYLENE CHLORIDE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
				µg/l				
11/1/77	0	.112	-	-	-	-	-	-
4	3	N	-	-	-	-	-	-
8	7	N	-	-	-	-	-	-
11	10	N	-	-	-	-	-	-
15	14	N	-	-	-	-	-	-
18	17	-	-	-	-	-	-	-
22	21	N	-	-	-	-	-	-
25	24	.42	-	-	-	-	-	-
29	28	N	-	-	-	-	-	-
12/2/77	31	.34	-	-	-	-	-	-
6	35	N	-	-	-	-	-	-
9	38	.03	-	-	-	-	-	-
13	42	N	-	-	-	-	-	-
16	45	.21	-	-	-	-	-	-
20	49	.81	-	-	-	-	-	-
23	52	.56	-	-	-	-	-	-
27	56	.36	-	-	-	-	-	-
30	59	.41	-	-	-	-	-	-
1/3/78	63	.69	-	-	-	-	-	-
6	66	.52	-	-	-	-	-	-
10	70	1.62	-	-	-	-	-	-
13	73	.03	-	-	-	-	-	-
17	77	.49	-	-	-	-	-	-
20	80	.10	-	-	-	-	-	-

(continued)

TABLE 14 (continued)

Date	Day	Sample 1 (µg/l)	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	.48	-	-	-	-	-	-
27	87	.73	-	-	-	-	-	-
31	91	3.2	-	-	-	-	-	-
2/3/78	94	2.5	-	-	-	-	-	-
7	98	.49	-	-	-	-	-	-
10	101	.61	-	-	-	-	-	-
14	105	.43	-	-	-	-	-	-
17	108	.16	-	-	-	-	-	-
21	112	.19	-	-	-	-	-	-
24	115	.21	-	-	-	-	-	-
28	119	.37	-	-	-	-	-	-
3/1/78	122	.13	-	-	-	-	-	-

TABLE 15 trans-1,2-DICHLOROETHANE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	Sample 11 (μg/l)	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	1.45	N	.62	N	N	N	N
4	3	1.40	.97	1.18	N	N	N	N
8	7	1.44	.99	.54	N	N	N	N
11	10	6.7	1.30	N	N	N	N	N
15	14	1.70	1.24	.88	N	N	N	N
18	17	.27	1.06	N	N	N	N	N
22	21	2.2	1.24	.30	N	N	N	N
25	24	1.20	.87	.72	N	N	N	N
29	28	.94	.98	.92	N	.24	N	N
12/2/77	31	1.15	.99	.57	N	N	N	N
6	35	.68	.63	.99	N	N	N	N
9	38	1.70	1.30	.60	N	N	N	N
13	42	2.0	1.10	.52	N	N	N	N
16	45	1.30	.62	.52	N	N	N	N
20	49	.98	.92	.34	N	N	N	N
23	52	1.40	1.10	.48	N	N	N	N
27	56	.39	.69	.52	.58	N	N	N
30	59	1.10	.58	.22	N	N	N	N
1/3/78	63	1.00	.71	.63	.97	N	N	N
6	66	.32	N	N	.97	N	N	N
10	70	.93	N	.21	.25	N	N	N
13	73	1.40	.94	1.50	.21	N	N	N
17	77	1.30	1.10	1.20	.45	N	N	N
20	80	2.4	1.00	.99	.10	N	N	N

(continued)

TABLE 15 (continued)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
				μg/1				
24	84	3.8	1.60	1.50	.72	N	N	N
27	87	1.40	.90	.90	.42	N	N	N
31	91	130	1.10	.92	.15	.05	N	N
2/3/78	94	1.50	1.30	.92	.21	N	N	N
7	98	1.30	1.00	.83	.99	N	N	N
10	101	1.40	1.00	.92	.37	N	N	N
14	105	1.30	1.10	.85	.41	N	N	N
17	108	1.50	1.20	1.10	.39	N	N	N
21	112	1.60	1.20	2.0	.13	N	N	N
24	115	1.70	1.10	1.50	.37	N	N	N
28	119	1.60	1.40	1.20	N	N	N	N
3/1/78	122	1.60	1.20	1.20	.86	.21	N	N

TABLE 16 1,1-DICHLOROETHANE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	N	N	N	N	N	N	N
4	3	.31	N	N	N	N	N	N
8	7	N	.19	N	N	N	N	N
11	10	N	N	N	N	N	N	N
15	14	N	N	N	N	N	N	N
18	17	N	N	N	N	N	N	N
22	21	N	N	N	1.05	N	N	N
25	24	.82	.58	.77	N	N	N	N
29	28	.36	.42	N	.21	N	N	N
12/2/77	31	.53	.46	.52	N	N	N	N
6	35	.37	.19	.33	N	N	N	N
9	38	.66	.96	.60	N	N	N	N
13	42	1.60	.26	N	.30	.19	N	N
16	45	.91	.62	.65	N	N	N	N
20	49	.72	.45	N	.80	.41	N	N
23	52	.19	.31	N	N	N	N	N
27	56	.92	.56	N	.66	.42	.30	N
30	59	.35	N	N	.94	.12	.49	N
1/3/78	63	.77	.55	.73	N	N	N	N
6	66	N	N	N	.58	.63	1.00	N
10	70	.99	N	N	.48	.68	1.76	N
13	73	.34	.32	.79	.74	.73	.94	N
17	77	.45	.30	.56	.79	.29	.71	.18
20	80	.73	.43	.30	.13	.17	.40	N

(continued)

TABLE 16 (continued)

		µg/l						
Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	.81	.81	.22	.27	.24	.21	.29
27	87	1.30	.59	.39	.30	.30	.66	.44
31	91	.31	.94	.66	.29	.48	.53	.12
2/3/78	94	.65	.73	1.10	.25	.50	.58	N
7	98	.29	.61	.52	1.40	.67	1.0	.54
10	101	.22	.56	.50	.56	.70	.38	.55
14	105	.85	.82	.42	.93	.88	.87	1.40
17	108	.97	.66	.45	.41	.29	.38	N
21	112	1.00	.58	1.1	.13	.11	.20	.48
24	115	.67	.86	.52	.65	N	.75	.78
28	119	.82	.70	.35	1.10	.86	.58	1.00
3/1/78	122	.96	.64	.37	.44	.65	.61	.84

TABLE 17 cis-1,2-DICHLOROETHENE DATA SHEET (ED4)

Date	Day	Sample 1 (µg/l)	Sample 7 (µg/l)	Sample 11 (µg/l)	Sample 19 (µg/l)	Sample 21 (µg/l)	Sample 23 (µg/l)	Sample 25 (µg/l)
11/1/77	0	24.5	22.9	20.7	N	N	N	N
4	3	24.2	20.6	26.2	N	N	N	N
8	7	25.7	24.2	19.4	N	N	N	N
11	10	24.0	14.5	10.7	N	N	N	N
15	14	25.3	19.7	16.8	N	N	N	N
18	17	20.5	12.8	9.1	.39	N	N	N
22	21	23.7	18.4	16.1	1.28	N	N	N
25	24	24.7	18.0	22.4	1.99	N	N	N
29	28	30.6	27.9	31.8	3.8	N	N	N
12/2/77	31	21.0	20.7	16.8	4.9	N	N	N
6	35	18.4	17.4	16.4	11.1	N	N	N
9	38	25.9	24.2	17.2	9.6	N	N	N
13	42	25.6	21.6	18.9	5.5	N	N	N
16	45	26.2	18.7	17.7	7.9	N	N	N
20	49	28.8	26.3	20.3	12.0	N	N	N
23	52	26.8	23.5	19.5	11.1	N	N	N
27	56	46.5	60.4	64.0	9.1	.59	N	N
30	59	30.4	23.2	20.6	4.2	.23	N	N
1/3/78	63	24.7	24.8	21.1	9.1	1.00	N	N
6	66	20.5	22.0	21.0	17.5	2.9	N	N
10	70	18.1	14.0	9.1	12.3	2.0	N	N
13	73	14.1	20.1	17.2	9.7	1.60	N	N
17	77	19.2	16.0	8.2	13.0	3.7	N	N
20	80	17.9	16.5	18.5	12.5	3.3	N	N

(continued)

TABLE 17 (continued)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	46.2	32.9	31.5	26.4	9.7	N	N
27	87	25.0	21.0	20.1	16.4	10.0	N	N
31	91	22.9	11.3	20.0	16.6	10.3	.41	N
2/3/78	94	24.9	22.0	12.0	18.6	11.9	.50	N
7	98	27.1	23.1	23.4	15.3	11.3	.61	N
10	101	24.2	20.6	20.8	17.6	12.0	.56	N
14	105	23.5	21.8	18.4	19.2	11.6	N	N
17	108	27.7	23.5	22.9	18.7	13.5	1.2	.57
21	112	27.0	24.4	40.2	15.4	10.3	1.1	N
24	115	28.5	23.2	23.0	18.2	16.8	2.0	N
28	119	30.4	27.4	26.1	19.8	17.7	2.6	N
3/1/78	122	27.4	21.8	21.1	21.6	9.7	5.7	N

TABLE 18 CHLOROFORM DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	N	2.8	77.8	.57	.48	.33	.32
4	3	N	.43	89.4	N	.17	.85	2.3
8	7	N	.79	65.1	.75	.15	N	.92
11	10	N	.13	53.7	5.3	.22	.63	.14
15	14	N	1.39	111	19.1	.07	.06	.05
18	17	N	.08	49.4	35.4	.24	.16	.16
22	21	N	.22	79.6	47.3	.13	.09	.01
25	24	N	.34	44.0	70.0	.27	N	N
29	28	N	.97	83.7	70.5	.10	N	N
12/2/77	31	N	.41	51.9	52.6	3.1	N	N
6	35	N	.44	49.6	78.8	17.9	N	N
9	38	N	1.10	75.2	71.2	30.8	N	N
13	42	N	3.0	76.4	68.2	19.4	.31	.04
16	45	N	.37	52.0	65.0	44.3	.24	N
20	49	N	1.13	82.5	70.6	66.6	1.60	.19
23	52	N	.69	58.6	64.5	65.8	2.8	.03
27	56	.94	1.90	65.7	55.2	59.4	10.0	.88
30	59	N	.22	55.3	73.3	88.0	16.9	.13
1/3/78	63	.48	.90	74.5	77.4	79.2	25.7	.38
6	66	N	.29	74.3	71.4	70.2	41.6	.64
10	70	N	1.90	76.2	61.0	80.8	57.9	1.47
13	73	N	1.40	79.3	64.8	73.2	51.3	2.0
17	77	N	.35	49.7	50.2	74.1	66.9	5.6
20	80	N	.21	48.3	53.1	65.6	61.9	10.6

(continued)

TABLE 18 (continued)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
				µg/l				
24	84	N	1.60	61.2	73.1	77.4	44.8	16.1
27	87	1.30	2.5	46.4	64.6	77.5	85.7	26.6
31	91	N	1.60	49.6	61.0	79.1	81.3	59.5
2/3/78	94	N	1.80	54.9	63.7	75.5	88.0	44.1
7	98	N	1.90	55.6	60.3	74.2	86.1	60.9
10	101	N	.39	63.0	63.2	73.1	89.2	68.4
14	105	.05	1.30	77.5	65.3	76.4	92.1	70.0
17	108	N	1.70	73.1	63.5	71.5	83.5	74.6
21	112	N	1.60	127	64.8	66.6	81.4	75.7
24	115	N	.52	59.2	60.0	73.1	79.6	77.2
28	119	N	1.30	64.7	64.0	82.7	97.6	94.0
3/1/78	122	N	3.1	68.9	69.7	74.5	92.4	89.3

TABLE 19 1,2-DICHLOROETHANE, 1,1,1-TRICHLOROETHANE AND CARBON TETRACHLORIDE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	μg/1 Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	N	N	5.6	N	N	N	N
4	3	N	N	10.9	N	N	N	N
8	7	N	N	4.9	1.28	.21	N	N
11	10	N	N	N	N	N	N	N
15	14	N	N	1.97	N	N	N	N
18	17	N	N	N	N	N	N	N
22	21	N	N	N	N	N	N	N
25	24	N	N	6.8	N	N	N	N
29	28	N	N	8.6	N	N	N	N
12/2/77	31	N	N	7.6	N	N	N	N
6	35	N	N	12.2	N	N	N	N
9	38	N	N	11.5	N	N	N	N
13	42	N	N	10.8	1.5	N	N	N
16	45	N	N	9.6	4.7	N	N	N
20	49	.13	3.7	12.7	4.9	N	N	N
23	52	N	N	24.9	5.8	N	N	N
27	56	N	N	7.6	4.0	.21	N	.31
30	59	N	N	9.5	6.0	N	N	N
1/3/78	63	.26	N	14.2	4.7	N	N	N
6	66	N	N	23.9	4.6	N	N	N
10	70	N	N	9.4	5.6	N	N	N
13	73	N	N	4.4	7.8	N	N	N
17	77	N	N	4.9	N	N	N	N
20	80	N	N	8.7	4.5	N	N	N

TABLE 19 (continued)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
		µg/l						
24	84	N	N	5.8	5.9	N	N	N
27	87	N	N	5.8	4.4	N	N	N
31	91	N	N	7.1	2.6	.54	N	N
2/3/78	94	N	N	4.2	3.3	.64	N	N
7	98	N	N	2.2	9.2	N	N	N
10	101	N	N	3.2	3.0	1.90	N	N
14	105	N	N	4.9	4.4	3.3	N	N
17	108	.04	N	9.8	6.0	2.9	N	N
21	112	.11	.05	13.2	5.6	2.6	N	N
24	115	.26	.16	7.1	8.1	1.30	N	N
28	119	1.70	.49	.45	5.9	3.2	N	N
3/1/78	122	N	N	N	2.2	1.80	N	N

TABLE 20 TRICHLOROETHYLENE DATA SHEET (ED4)

Date	Day	Sample 1 (μg/l)	Sample 7 (μg/l)	Sample 11 (μg/l)	Sample 19 (μg/l)	Sample 21 (μg/l)	Sample 23 (μg/l)	Sample 25 (μg/l)
11/1/77	0	.17	.17	.56	N	N	N	N
4	3	.15	.13	.55	N	N	N	N
8	7	.17	.12	.20	N	N	N	.16
11	10	.26	.03	3.6	[illegible]	N	N	N
15	14	.44	.52	.05	N	N	N	N
18	17	.04	N	N	N	N	N	N
22	21	.08	.08	.14	N	N	N	N
25	24	.17	.06	N	N	N	N	N
29	28	.17	.44	1.80	N	N	N	N
12/2/77	31	.22	.26	N	N	N	N	N
6	35	.29	.21	N	N	N	N	N
9	38	.16	.03	.97	N	N	N	N
13	42	.11	.14	.17	.22	N	N	N
16	45	.30	.21	.92	.09	N	N	N
20	49	.19	.36	.68	.29	.17	N	N
23	52	.24	.26	.29	.45	N	N	N
27	56	.13	.22	.44	.57	.16	.08	.07
30	59	.15	.08	.47	N	N	N	N
1/3/78	63	.38	.13	1.20	.04	N	N	N
6	66	N	N	.28	N	N	N	N
10	70	N	.05	N	N	N	N	N
13	73	.32	.24	.44	N	N	N	N
17	77	.31	.50	1.40	N	N	N	N
20	80	.38	.97	1.40	N	N	N	N

(continued)

TABLE 20 (continued)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
				µg/1				
24	84	1.40	1.10	1.40	N	N	N	N
27	87	.52	.47	.88	.13	.03	N	N
31	91	.35	.38	.37	.07	.05	N	N
2/3/78	94	.67	.49	.56	.74	N	N	N
7	98	.43	.70	1.10	N	N	N	N
10	101	.46	.58	.61	.16	.02	.11	.02
14	105	.76	.52	.78	N	N	N	N
17	108	.64	.66	1.00	.73	.57	N	N
21	112	.54	.67	.56	N	N	N	N
24	115	.73	.58	1.20	N	N	N	N
28	119	.74	.47	.47	N	N	N	N
3/1/78	122	.55	.41	.55	.57	N	N	N

TABLE 21 BROMODICHLOROMETHANE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	μg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	N	.76	30.8	N	N	N	N
4	3	N	.03	59.9	N	N	N	N
8	7	N	.04	43.0	N	N	N	N
11	10	N	N	46.1	.19	N	N	N
15	14	N	.62	50.8	1.86	N	N	N
18	17	N	N	36.2	5.1	N	N	N
22	21	N	N	43.9	9.6	N	N	N
25	24	N	.07	55.5	16.7	N	N	N
29	28	N	.15	54.5	20.3	N	N	N
12/2/77	31	N	N	43.0	22.8	N	N	N
6	35	N	.11	40.1	32.6	.07	N	N
9	38	N	.20	49.8	32.7	.41	N	N
13	42	N	1.1	55.3	34.3	1.50	N	N
16	45	N	.13	41.2	36.6	2.5	N	N
20	49	N	.18	54.0	38.9	6.1	N	N
23	52	N	.05	53.6	37.9	8.0	.11	N
27	56	N	N	50.4	30.5	9.7	.04	N
30	59	N	N	32.7	38.3	13.5	.08	N
1/3/78	63	N	.04	61.7	46.1	16.7	.09	N
6	66	N	N	54.3	46.0	18.1	.41	N
10	70	N	.51	35.2	38.9	26.9	1.00	N
13	73	N	.16	57.4	46.2	25.4	1.9	N
17	77	N	.07	40.6	39.1	29.7	2.6	N
20	80	N	.93	40.8	40.0	27.8	3.1	.04

(continued)

TABLE 21 (continued)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	N	.85	42.3	53.7	36.5	3.0	.08
27	87	N	.19	39.7	47.6	39.0	8.7	.23
31	91	N	.34	42.6	45.4	40.2	9.3	.39
2/3/78	94	N	1.00	46.0	47.6	40.3	12.4	.70
7	98	N	.72	45.3	48.3	42.1	15.8	.82
10	101	N	.22	47.3	48.0	42.4	6.7	1.00
14	105	N	.54	33.3	46.1	42.1	19.1	1.80
17	108	N	.69	49.3	46.9	43.6	21.9	1.70
21	112	N	.92	69.2	45.3	39.6	22.1	1.90
24	115	.02	.32	51.0	50.7	51.5	28.8	3.0
28	119	N	.35	49.0	58.7	53.8	31.9	3.8
3/1/78	122	N	1.40	44.8	51.5	51.1	33.6	4.7

TABLE 22 TETRACHLOROETHYLENE DATA SHEET (ED4)

Date	Day	Sample 1 (μg/1)	Sample 7 (μg/1)	Sample 11 (μg/1)	Sample 19 (μg/1)	Sample 21 (μg/1)	Sample 23 (μg/1)	Sample 25 (μg/1)
11/1/77	0	N	N	N	N	N	N	N
4	3	N	N	N	N	N	N	N
8	7	N	N	N	N	N	N	N
11	10	N	N	N	N	N	N	N
15	14	N	N	N	N	N	N	N
18	17	N	N	N	N	N	N	N
22	21	N	N	N	N	N	N	N
25	24	N	N	N	N	N	N	N
29	28	N	N	N	N	N	N	N
12/2/77	31	N	N	N	N	N	N	N
6	35	N	N	N	N	N	N	N
9	38	N	N	N	N	N	N	N
13	42	N	N	N	N	N	N	N
16	45	N	N	N	N	N	N	N
20	49	N	N	N	N	N	N	N
23	52	N	N	N	N	N	N	N
27	56	N	N	N	N	N	N	N
30	59	N	N	N	N	N	N	N
1/3/78	63	N	N	N	N	N	N	N
6	66	N	N	N	N	N	N	N
10	70	N	N	N	N	N	N	N
13	73	N	N	N	N	N	N	N
17	77	N	N	N	N	N	N	N
20	80	N	N	N	N	N	N	N

(continued)

TABLE 22 (continued)

Date	Day	μg/l Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	N	N	N	N	N	N	N
27	87	N	N	N	N	N	N	N
31	91	N	N	N	N	N	N	N
2/3/78	94	N	N	N	N	N	N	N
7	98	N	N	N	N	N	N	N
10	101	N	N	N	N	N	N	N
14	105	N	N	N	N	N	N	N
17	108	.02	.02	.03	N	N	N	N
21	112	.04	.05	.01	N	N	N	N
24	115	.03	.03	.06	N	N	N	N
28	119	.02	.03	.01	N	N	N	N
3/1/78	122	N	N	N	N	N	N	N

TABLE 23 CHLORODIBROMOMETHANE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	μg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	N	.13	11.8	N	N	N	N
4	3	N	N	36.8	N	N	N	N
8	7	N	N	27.2	N	N	N	N
11	10	N	N	34.7	N	N	N	N
15	14	N	N	29.8	N	N	N	N
18	17	N	N	28.9	.38	N	N	N
22	21	N	N	27.6	.67	N	N	N
25	24	N	N	26.6	1.56	N	N	N
29	28	N	.08	36.3	4.2	N	N	N
12/2/77	31	N	N	26.6	4.6	N	N	N
6	35	N	N	28.8	12.3	N	N	N
9	38	N	.08	29.7	13.3	N	N	N
13	42	N	.10	16.4	9.5	N	N	N
16	45	N	.08	28.6	13.2	N	N	N
20	49	N	N	40.0	15.4	N	N	N
23	52	N	N	29.0	14.3	.15	N	N
27	56	N	N	27.7	12.7	.34	N	N
30	59	N	N	20.0	17.8	.54	N	N
1/3/78	63	N	N	44.3	21.8	.45	N	N
6	66	N	N	41.7	22.0	1.10	N	N
10	70	N	N	17.0	18.1	3.0	N	N
13	73	N	.11	27.0	23.5	3.0	.23	N
17	77	N	N	27.6	21.1	4.7	N	N
20	80	N	.27	33.2	21.4	4.5	N	N

(continued)

TABLE 23 (continued)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
				μg/l				
24	84	N	.37	25.8	27.4	6.6	N	N
27	87	N	.04	34.0	26.2	8.3	.09	N
31	91	N	.13	32.0	25.6	8.3	.11	N
2/3/78	94	N	.42	33.2	27.4	9.7	.20	N
7	98	N	.95	35.4	27.0	11.1	.53	N
10	101	N	.09	32.1	26.5	11.1	.35	N
14	105	N	.21	16.4	25.9	11.4	.56	.05
17	108	N	.25	24.5	27.8	12.8	.72	N
21	112	N	.33	35.4	21.4	10.9	.91	N
24	115	N	.19	49.8	40.0	19.7	2.0	N
28	119	N	.13	32.0	32.7	17.8	1.70	N
3/1/78	122	N	.60	26.1	29.1	17.0	1.90	.05

TABLE 24 CHLOROBENZENE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
				μg/l				
11/1/77	0	.54	.52	.80	N	N	N	N
4	3	.48	.38	1.16	N	N	N	N
8	7	.50	.42	.45	N	N	N	N
11	10	.67	.23	N	N	N	N	N
15	14	.69	1.65	N	N	N	N	N
18	17	1.14	N	N	N	N	N	N
22	21	5.58	.13	.27	N	N	N	N
25	24	1.05	.72	.40	N	N	N	N
29	28	.63	.72	1.20	N	N	N	N
12/2/77	31	.94	.62	.59	N	N	N	N
6	35	1.90	.67	.40	N	N	N	N
9	38	.84	.54	.88	N	N	N	N
13	42	.35	.53	.66	N	N	N	N
16	45	.83	.36	.45	N	N	N	N
20	49	.49	.49	.76	N	N	N	N
23	52	1.10	.52	.51	N	N	N	N
27	56	.47	.47	1.10	N	N	N	N
30	59	.48	.24	N	N	N	N	N
1/3/78	63	N	N	N	N	N	N	N
6	66	N	N	N	N	N	N	N
10	70	N	N	.20	N	N	N	N
13	73	1.00	1.1	1.40	N	N	N	N
17	77	1.80	.09	.47	N	N	N	N
20	80	1.30	.14	2.4	N	N	N	N

(continued)

TABLE 24 (continued)

Date	Day	μg/l						
		Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	.24	1.90	1.70	N	N	N	N
27	87	1.40	1.20	1.10	.09	N	N	N
31	91	1.20	2.8	1.30	.15	N	N	N
2/3/78	94	1.50	1.30	1.50	.17	N	N	N
7	98	1.20	1.10	1.10	N	N	N	N
10	101	2.8	.95	1.00	.36	N	N	N
14	105	1.00	.95	1.40	N	N	N	N
17	108	1.30	1.10	1.30	.18	N	N	N
21	112	1.30	1.20	2.0	N	N	N	N
24	115	1.40	1.20	1.10	1.20	N	N	N
28	119	1.30	1.20	1.30	N	N	N	N
3/1/78	122	1.40	1.10	1.10	.19	N	N	N

TABLE 25 BROMOFORM DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	μg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	N	N	.77	N	N	N	N
4	3	N	N	1.62	N	N	N	N
8	7	N	N	1.89	N	N	N	1.06
11	10	N	N	2.3	N	N	N	N
15	14	N	N	1.5	N	N	N	N
18	17	N	N	N	N	N	N	N
22	21	N	N	2.0	N	N	N	N
25	24	N	N	1.47	N	N	N	N
29	28	N	N	3.5	N	N	N	N
12/2/77	31	N	.25	2.9	N	N	N	N
6	35	N	N	2.4	N	N	N	N
9	38	N	N	2.24	N	N	N	N
13	42	N	N	1.10	.26	N	N	N
16	45	N	N	2.3	N	N	N	N
20	49	N	N	1.50	.33	N	N	N
23	52	N	N	2.2	.58	N	N	N
27	56	N	N	1.27	.29	N	N	N
30	59	N	N	.13	.61	N	N	N
1/3/78	63	N	N	3.6	.97	.08	N	N
6	66	N	N	2.4	1.00	.22	N	N
10	70	N	N	.74	.88	.11	N	N
13	73	N	N	3.1	1.50	.17	N	N
17	77	N	N	2.3	1.10	.20	N	N
20	80	N	N	3.1	1.10	.10	N	N

(continued)

TABLE 25 (continued)

		µg/l						
Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	N	N	2.2	1.90	N	N	N
27	87	N	N	3.5	1.90	N	N	N
31	91	N	N	4.9	2.0	N	N	N
2/3/78	94	N	N	4.2	2.4	N	N	N
7	98	N	N	4.8	2.5	N	N	N
10	101	N	N	3.2	2.1	N	N	N
14	105	N	N	1.50	1.00	N	N	N
17	108	N	N	3.9	2.0	.19	N	N
21	112	N	N	1.60	1.40	.24	N	N
24	115	N	N	7.7	4.0	.32	N	N
28	119	N	N	3.0	2.3	.17	N	N
3/1/78	122	N	N	2.1	2.1	.29	N	N

TYPING GUIDE SHEET

TABLE 26 p-CHLOROTOLUENE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	N	N	N	N	N	N	N
4	3	N	N	N	N	N	N	N
8	7	N	N	N	N	N	N	N
11	10	N	N	N	N	N	N	N
15	14	N	N	N	N	N	N	N
18	17	N	N	N	N	N	N	N
22	21	N	N	N	N	N	N	N
25	24	N	N	N	N	N	N	N
29	28	N	.45	N	N	N	N	N
12/2/77	31	N	N	N	N	N	N	N
6	35	N	N	N	N	N	N	N
9	38	N	N	N	N	N	N	N
13	42	N	N	N	N	N	N	N
16	45	N	N	N	N	N	N	N
20	49	N	N	N	N	N	N	N
23	52	N	N	N	N	N	N	N
27	56	N	N	N	N	N	N	N
30	59	N	N	N	N	N	N	N
1/3/78	63	N	N	N	N	N	N	N
6	66	N	N	N	N	N	N	N
10	70	N	N	N	N	N	N	N
13	73	N	N	N	N	N	N	N
17	77	N	N	N	N	N	N	N
20	80	N	N	N	N	N	N	N

(continued)

TABLE 26 (continued)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
		µg/l						
24	84	N	N	N	N	N	N	N
27	87	N	N	N	N	N	N	N
31	91	N	N	N	N	N	N	N
2/3/78	94	N	N	N	N	N	N	N
7	98	N	N	N	N	N	N	N
10	101	N	N	N	N	N	N	N
14	105	N	N	N	N	N	N	N
17	108	.14	.08	.05	N	N	N	N
21	112	.12	.11	.23	N	N	N	N
24	115	.28	.20	.04	N	N	N	N
28	119	.15	.11	.10	N	N	N	N
3/1/78	122	.11	.10	N	N	N	N	N

TABLE 27 m-DICHLOROBENZENE DATA SHEET (ED4)

Date	Day	Sample 1 (μg/l)	Sample 7 (μg/l)	Sample 11 (μg/l)	Sample 19 (μg/l)	Sample 21 (μg/l)	Sample 23 (μg/l)	Sample 25 (μg/l)
11/1/77	0	N	N	N	N	N	N	N
4	3	N	N	N	N	N	N	N
8	7	N	N	N	N	N	N	N
11	10	N	N	N	N	N	N	N
15	14	.23	N	N	N	N	N	N
18	17	N	N	N	N	N	N	N
22	21	N	N	N	N	N	N	N
25	24	N	N	N	N	N	N	N
29	28	N	N	N	N	N	N	N
12/2/77	31	N	N	N	N	N	N	N
6	35	N	N	N	N	N	N	N
9	38	N	N	N	N	N	N	N
13	42	N	N	N	N	N	N	N
16	45	N	N	N	N	N	N	N
20	49	N	N	N	N	N	N	N
23	52	N	N	N	N	N	N	N
27	56	N	N	N	N	N	N	N
30	59	N	N	N	N	N	N	N
1/3/78	63	N	N	N	N	N	N	N
6	66	N	N	N	N	N	N	N
10	70	N	N	N	N	N	N	N
13	73	N	N	N	N	N	N	N
17	77	N	N	N	N	N	N	N
20	80	N	N	N	N	N	N	N

(continued)

TABLE 27 (continued)

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
				µg/l				
24	84	N	N	N	N	N	N	N
27	87	N	N	N	N	N	N	N
31	91	N	N	N	N	N	N	N
2/3/78	94	N	N	N	N	N	N	N
7	98	N	N	N	N	N	N	N
10	101	N	N	N	N	N	N	N
14	105	N	N	N	N	N	N	N
17	108	N	N	N	N	N	N	N
21	112	N	N	N	N	N	N	N
24	115	N	N	N	N	N	N	N
28	119	N	N	N	N	N	N	N
3/1/78	122	N	N	N	N	N	N	N

TABLE 28 p-DICHLOROBENZENE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	.18	.18	.97	.30	N	N	N
4	3	.17	.14	.25	N	N	N	N
8	7	.18	.15	.10	N	N	N	N
11	10	1.96	.08	N	N	N	N	N
15	14	.08	1.14	N	N	N	N	N
18	17	7.3	N	N	N	N	N	N
22	21	.12	.16	N	N	N	N	N
25	24	.26	.18	.31	N	N	N	N
29	28	.23	.37	.32	N	N	N	N
12/2/77	31	.20	.26	.16	N	N	N	N
6	35	.15	.10	.09	N	N	N	N
9	38	.35	.19	.22	N	N	N	N
13	42	.12	.13	.11	N	N	N	N
16	45	.19	.19	N	N	N	N	N
20	49	.14	.15	.10	N	N	N	N
23	52	.13	.13	.19	N	N	N	N
27	56	.10	.14	.14	N	N	N	N
30	59	.11	.02	.05	N	N	N	N
1/3/78	63	.16	.08	.06	N	N	N	N
6	66	N	N	N	N	N	N	N
10	70	N	N	N	N	N	N	N
13	73	.34	.51	.34	N	N	N	N
17	77	.34	.22	.14	N	N	N	N
20	80	.40	.31	.44	N	N	N	N

(continued)

TABLE 28 (continued)

Date	Day	Sample 1	Sample 7	µg/1 Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	N	.63	.41	N	N	N	N
27	87	.30	.28	.21	N	N	N	N
31	91	.29	.28	.29	N	N	N	N
2/3/78	94	.43	.33	.35	N	N	N	N
7	98	.38	.42	.33	N	N	N	N
10	101	.36	.32	.40	N	N	N	N
14	105	.63	.67	.59	N	N	N	N
17	108	.62	.48	.40	N	N	N	N
21	112	.61	.50	.84	N	N	N	N
24	115	.73	.64	.44	N	N	N	N
28	119	.56	.55	.44	N	N	N	N
3/1/78	122	.59	.37	.28	N	N	N	N

TABLE 29 o-DICHLOROBENZENE DATA SHEET (ED4)

Date	Day	Sample 1	Sample 7	μg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	.08	.08	N	N	N	N	N
4	3	.09	.06	.10	N	N	N	N
8	7	.08	.07	N	N	N	N	N
11	10	.07	N	N	N	N	N	N
15	14	N	.09	N	N	N	N	N
18	17	N	N	N	N	N	N	N
22	21	N	N	N	N	N	N	N
25	24	.10	.12	.31	N	N	N	N
29	28	.06	.34	.13	N	N	N	N
12/2/77	31	.29	.23	.28	N	N	N	N
6	35	.23	.15	.06	N	N	N	N
9	38	.52	.24	.22	N	N	N	N
13	42	.07	.06	.40	N	N	N	N
16	45	.08	.08	N	N	N	N	N
20	49	.14	.05	.11	N	N	N	N
23	52	.24	.02	.03	N	N	N	N
27	56	.03	.07	.20	N	N	N	N
30	59	.02	N	.03	N	N	N	N
1/3/78	63	N	.07	N	N	N	N	N
6	66	N	N	N	N	N	N	N
10	70	N	N	N	N	N	N	N
13	73	N	.42	N	N	N	N	N
17	77	.13	.12	.06	N	N	N	N
20	80	.22	.20	.14	N	N	N	N

(continued)

TABLE 29 (continued)

Date	Day	Sample 1	Sample 7	μg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	N	.43	.25	N	N	N	N
27	87	.34	.34	.15	N	N	N	N
31	91	.19	.19	.16	N	N	N	N
2/3/78	94	.29	.23	.22	N	N	N	N
7	98	.21	.28	.17	N	N	N	N
10	101	.22	.17	.27	N	N	N	N
14	105	.40	.33	.29	N	N	N	N
17	108	.36	.28	.29	N	N	N	N
21	112	.37	.29	.43	N	N	N	N
24	115	.50	.38	.27	N	N	N	N
28	119	.35	.31	.34	N	N	N	N
3/1/78	122	.36	.24	.09	N	N	N	N

TABLE 30 INSTANTANEOUS TTHM (ED4)

µg/l

Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/ 1/77	0	N	3.701	121.1	.572	.476	.333	.318
4	3	N	.460	187.7	N	0.174	.847	2.32
8	7	N	.829	137.17	.75	.153	N	1.98
11	10	N	.128	136.8	5.44	.217	.634	.139
15	14	N	2.01	193.5	20.9	.07	.055	.045
18	17	N	.08	115.7	40.8	.24	.158	.164
22	21	N	.22	153.1	57.6	.13	.09	.01
25	24	N	.41	127.6	88.3	.27	N	N
29	28	N	1.2	178.0	95.0	.19	N	N
12/ 2/77	31	N	.66	124.4	80.0	3.1	N	N
6	35	N	.55	120.9	123.7	18.0	N	N
9	38	N	1.38	156.9	117.2	31.2	N	N
13	42	N	4.2	149.2	112.3	20.9	.31	.04
16	45	N	.58	124.1	114.8	46.8	.24	N
20	49	N	1.31	178.0	125.2	72.7	1.6	.19
23	52	N	.73	143.4	108.7	73.9	2.9	.03
27	56	.94	1.9	145.1	98.7	69.4	10.0	.88
30	59	N	.22	108.1	130.0	102.0	17.7	.13
1/ 3/78	63	.48	.94	184.1	146.3	96.4	25.8	.38
6	66	N	.29	172.7	140.4	89.4	42.0	.64
10	70	N	2.41	129.1	118.9	110.7	58.9	1.47
13	73	N	1.67	166.8	136.0	101.6	53.4	2.0
17	77	N	.51	120.2	111.5	108.5	69.5	5.61
20	80	N	3.3	125.4	115.6	97.9	65.1	10.6

(continued)

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TABLE 30 (continued)

				µg/l				
Date	Day	Sample 1	Sample 7	Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	N	2.8	131.5	156.1	120.5	47.8	16.2
27	87	1.3	3.0	123.9	140.3	124.9	94.4	26.8
31	91	N	2.0	129.1	134.0	127.8	90.7	59.9
2/ 3/78	94	N	3.2	138.3	141.1	125.6	100.6	44.8
7	98	N	3.6	141.1	138.1	127.6	102.4	61.7
10	101	N	.70	145.6	139.8	126.8	101.3	69.9
14	105	.05	2.1	128.7	139.1	130.0	111.8	71.9
17	108	N	2.6	150.8	140.2	128.1	106.1	76.3
21	112	N	2.85	233.2	132.9	117.3	104.4	77.6
24	115	.02	1.03	167.7	154.7	144.6	110.4	80.2
28	119	N	1.65	148.7	157.7	154.5	131.2	97.8
3/ 4/78	122	N	5.1	141.9	152.4	142.9	127.9	94.1

TABLE 31 TERMINAL TTHM (ED4)

Date	Day	Sample 2	Sample 8	µg/1 Sample 12	Sample 20	Sample 22	Sample 24	Sample 26
11/ 1/77	0	696.3	496	544	10.4	9.3	9.9	17.6
4	3	277.4	204	241	129	46.4	19	26.3
8	7	701.4	600	731	110	19	16.8	14.8
11	10	818.4	681	524	209	127	72	14.4
15	14	561.4	541	415	238	195	78.5	24.2
18	17	725.1	533	755	522	283	205	76.4
22	21	452.4	542	619	346	246	168	116
25	24	631.9	589	537	346	171	122	109
29	28	694.1	697	516	513	261	150	150
12/ 2/77	31	884.3	640	640	380	283	163	166
6	35	495.8	420	342	557	387	173	315
9	38	609.2	554	674	468	291	216	187
13	42	411.7	430	513	499	444	299	207
16	45	638.7	536	541	442	125	258	229
20	49	652.3	498	651	609	492	300	367
23	52	679.6	504	471	450	345	174	150
27	56	562.7	522	548	429	300	200	162
30	59	638.0	599	643	548	401	236	158
1/ 3/78	63	555.0	469	544	488	377	285	245
6	66	752.2	516	525	570	452	269	195
10	70	756.7	529	621	489	386	250	229
13	73	577.7	467	532	503	399	308	225
17	77	584.4	514	476	410	340	242	171
20	80	529.0	567	591	467	339	303	199

(continued)

TABLE 31 (continued)

Date	Day	Sample 2	Sample 8	Sample 12	Sample 20	Sample 22	Sample 24	Sample 26
		μg/l						
24	84	761.0	539	574	477	381	323	223
27	87	673.3	484	576	514	376	313	238
31	91	685.9	514	561	503	411	376	258
2/ 3/78	94	559.0	407	558	417	356	242	245
7	98	698.0	482	512	541	479	374	313
10	101	741.4	595	581	573	483	436	362
14	105	863.3	541	580	480	500	443	411
17	108	753.0	433	426	529	518	413	336
21	112	717.5	564	561	492	453	372	308
24	115	771.4	539	640	531	517	427	364

TABLE 32 TWO-DAY AGED TTHM (ED4)

Date	Day	Sample 11 + 2 (μg/l)	Sample 23 + 2 (μg/l)	Sample 25 + 2 (μg/l)		Sample 17 (μg/l)		
11/1/78	0	205	-	.47		250		
4	3	-	-	-		-		
8	7	225	-	36.6		-		
11	10	-	-	-		-		
15	14	182	-	14.6		187		
18	17	-	-	-		-		
22	21	153	-	75.2		-		
25	24	-	-	-		-		
29	28	179	-	48.8		-		
12/2/78	31	-	-	-		-		
6	35	266	-	39.4		274		
9	38	-	-	-		-		
13	42	272	-	69.0		323		
16	45	-	77.7	-		-		
20	49	202	-	21.8		204		
23	52	-	51.7	-		-		
27	56	201	-	23.4		200		
30	59	-	70.0	-		-		
1/3/78	63	265	-	76.5		237		
6	66	-	-	-		-		
10	70	251	111	55.1		233		
13	73	-	-	-		-		
17	77	281	202	60.2		224		
20	80	-	164	-		-		

(continued)

TABLE 32 (continued)

		µg/l						
Date	Day	Sample 11 + 2	Sample 23 + 2	Sample 25 + 2		Sample 17		
24	84	253	224	127		223		
27	87	-	150	-		-		
31	91	292	130	134		216		
2/3/78	94	-	205	-		-		
7	98	322	138	170		281		
10	101	-	133	-		-		
14	105	225	232	178		218		
17	108	-	238	-		-		
21	112	243	182	153		172		
24	115	-	-	-		-		
28	119	-	-	-		-		

TABLE 33 THM FP (ED4)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
11/1/77	0	696	493	422	9	9	10	17
4	3	-	-	-	130	46	18	24
8	7	701	599	594	110	19	17	13
11	10	818	682	389	203	126	72	14
15	14	561	540	-	217	194	78	24
18	17	725	533	640	481	284	206	76
22	21	452	542	470	288	247	168	116
25	24	632	588	409	261	171	122	109
29	28	694	697	340	419	261	151	150
12/2/77	31	884	640	515	300	279	163	166
6	35	496	420	221	434	369	173	315
9	38	609	552	516	346	260	217	187
13	42	412	426	364	387	423	298	208
16	45	639	535	416	328	324	257	229
20	49	652	497	473	483	419	299	366
23	52	680	504	328	333	271	171	149
27	56	563	520	403	330	230	190	161
30	59	638	599	535	418	299	219	158
1/3/78	63	555	468	360	342	280	259	244
6	66	752	515	352	429	362	227	195
10	70	757	527	488	371	275	190	227
13	73	578	466	370	367	297	255	223
17	77	584	514	357	298	231	173	165
20	80	529	563	465	352	241	238	188

(continued)

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TABLE 33 (continued)

Date	Day	Sample 1	Sample 7	µg/l Sample 11	Sample 19	Sample 21	Sample 23	Sample 25
24	84	761	536	443	321	260	275	206
27	87	673	481	453	374	251	218	212
31	91	686	512	432	369	283	285	198
2/3/78	94	559	404	420	276	231	131	200
7	98	698	478	371	403	351	271	252
10	101	741	599	438	433	356	334	292
14	105	863	539	451	341	370	307	339
17	108	753	450	275	388	390	307	260
21	112	718	561	318	359	335	267	230
24	115	771	538	472	376	373	317	283
average*		662	531	434	365	312	250	229

* average of total column of data or from arrow (↓)

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TABLE 34 TOC DATA SHEET (ED4)

		SAMPLE 1		SAMPLE 7		SAMPLE 11		SAMPLE 19		SAMPLE 21		SAMPLE 23		SAMPLE 25	
DAY	DATE	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC	TOC	VOC
0	11/1/77	8.5	199	5.9	17	6.0	205	0.4	130	0.4	57	0.4	7	0.6	3
7	11/8/77	7.4	127	6.0	122	5.6	137	2.8	149	1.2	143	0.3	147	0.3	145
14	11/15/77	8.4	269	5.3	13	5.2	156	3.7	109	2.2	6	1.3	5	0.3	10
21	11/22/77	8.7	276	5.9	15	5.6	212	4.1	7	3.0	0	2.2	<1	1.5	0
28	11/29/77	7.9	259	5.3	14	5.2	225	3.8	10	2.9	2	2.4	2	1.9	1
35	12/6/77	7.4	230	4.9	12	4.9	183	2.9	8	2.8	3	2.4	1	2.3	1
42	12/13/77	9.3	364	6.3	13	6.1	251	5.3	13	4.1	5	3.3	2	2.8	2
49	12/20/77	8.4	223	5.5	85	4.7	151	5.1	15	4.6	9	3.8	4	3.2	4
59	12/30/77	8.4	176	6.0	9	5.8	172	4.9	12	4.0	7	3.2	2	2.7	2
63	1/3/78	9.0	202	5.9	13	5.3	169	5.2	14	4.7	8	4.0	4	3.4	1
70	1/10/78	8.6	271	6.2	188	5.6	194	5.1	15	4.6	7	3.8	5	3.2	2
77	1/17/78	8.5	257	6.0	184	5.6	196	5.0	13	4.6	9	4.0	7	3.4	2
84	1/24/78	8.2	150	5.6	127	5.3	171	4.8	15	4.7	11	3.8	9	3.2	5
91	1/31/78	8.5	344	5.9	226	5.6	172	5.6	18	4.6	15	3.9	14	3.3	11
98	2/7/78	8.5	462	5.8	177	5.4	201	5.0	31	4.4	29	3.8	24	3.2	20
105	2/14/78	7.9	263	5.7	184	5.2	189	4.9	15	4.4	9	4.0	7	3.6	11
112	2/21/78	7.4	276	5.5	172	4.9	182	4.6	13	4.2	13	3.7	10	3.4	6
119	2/28/78	8.6	296	6.2	191	5.9	226	5.3	22	4.9	9	4.3	10	3.7	12

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